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ABSTRACT

Commonwealth Ministries of Education were asked to report on how they are undertaking the improvement of the quality of basic education in their respective countries. The papers in this volume focus on: (1) Brunei Darussalam; (2) Canada; (3) Kenya; and (4) Uganda. Charts and statistical data support each country's report. (EH)

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Eleventh Conference of Commonwealth Education Ministers

Barbados, 29 October - 2 November 1990

AGENDA ITEM 2

IMPROVING THE QUALITY OF BASIC EDUCATION

COUNTRY PAPERS (VOLUME 5)

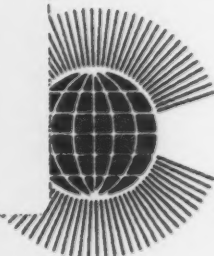
BRUNEI DARUSSALAM

CANADA

KENYA

UGANDA

SO 027 540



Commonwealth Secretariat

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INTRODUCTION

Commonwealth Ministries of Education were asked to report on how they are undertaking to improve the quality of basic education in their countries, the main theme of the Eleventh Conference of Commonwealth Education Ministers.

Volume 5 of these country papers on Conference Agenda Item 2, **Improving the Quality of Basic Education**, contains some of these country papers; others are similarly bound and issued in separate volumes.

For ease of reference each paper is prefaced by a coloured cover sheet and each page is given a coded folio number as shown below.

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CANADA	CAN 1 - 34
KENYA	KEN 1 - 29
UGANDA	UGA 1 - 30

Education Programme
Human Resource Development Group
Commonwealth Secretariat
July 1990

BRUNEI DARUSSALAM

COUNTRY PAPER ON IMPROVING THE QUALITY OF BASIC EDUCATION

Introduction

With rapid advances in information technology and present trends of world interdependency, there have been increasing changes in terms of social and cultural developments in most countries. In Brunei Darussalam there has been a growing demand for an education system that will be compatible with these changes and one which will help to create a society that is full of vitality and creativity as well as maintaining the national identity.

In Brunei Darussalam, education is considered as an important factor, not only for producing educated, highly - skilled and qualified manpower, but, more importantly, to shape a well - disciplined patriotic and responsible society. In other words, a generation which will continue maintaining the Bruneian way of life which is based on the teaching of Islam; with young people who are cooperative and courteous and have a sense of commitment to national development. At the same time, attention must also be paid to balancing the development of morality, with development of intellect and physical fitness in the coming generation. Education should be able to cultivate important values such as respect for the dignity of life, reverence for nature, a sense of responsibility, self-reliance, self-support, self-control, good manners and kindness to others.

To be able to strive towards such a society, the government of Brunei Darussalam has allocated a large proportion of its budget to education. ¹

The main task of the Ministry of Education in Brunei Darussalam is to formulate objectives in line with the nation's goals as stated in the National Development Plan. The aspirations of the nation, stated by His Majesty The Sultan and Yang Di-Pertuan, Negara Brunei Darussalam during the proclamation of independence, is to make Brunei Darussalam forever a sovereign, democratic and independent Malay Islamic Monarchy based upon the teachings of Islam according to Ahli Sunnah Waljammah and based upon the principles of liberty, trust and justice forever seeking the guidance and blessing of Allah for the peace, security, welfare and happiness of the people of Brunei Darussalam.

It is the Ministry of Education that is given the responsibility for formulating ways and means of achieving this type of society.

1. The Education budget for 1988 was estimated to be 15% of the total government expenditure. Report on Brunei Darussalam (see chart on the budget).

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The goals of the nation are:

- i) To improve the quality of life of the people;
- ii) to maximise the economic utilisation of national resources;
- iii) to develop new export-oriented industries as well as import substitution industries;
- iv) to accelerate human resources development in the country so as to meet the demands of an increasingly sophisticated economy;
- v) to maintain full employment and increase the level of productivity
- vi) to maintain a moderate rate of inflation;
- vii) to foster a dynamic, disciplined and responsible society with its citizens as agents for progress and development;
- viii) to encourage and nurture the development of the Malays as leaders of industry and commerce;
- v) to have a clean and healthy environment.

The attaining of these national goals is clearly, in part, dependent on education. With this challenging task, the Ministry of Education has developed and implemented an education policy and which will lead to the most effective system of education to serve the needs of the country. National education policies include the following:-

1. To uphold and implement a bilingual system of education in which the Malay Language will continue to play an important role as the sole National Language, though at the same time proficiency in the English Language is essential;
2. To give instruction in Islamic Knowledge and ensure that Islamic values and the Islamic way of life are integrated into the education system through the school curriculum;
3. To provide at least 12 years of education for every Bruneian child, namely 7 years in Primary (including pre-school), 3 in Lower Secondary and 2 years in Upper Secondary or Vocational School;
4. To provide a common curriculum and public examinations of uniform type for all schools in the country;
5. To give to all children in Brunei Darussalam every opportunity to play a useful role in national development, so as to fulfill all the needs of the country through the involvement of the people themselves;
6. To offer higher education, for those who are capable and qualified, in the light of national needs as they may change from time to time, as well as fulfilling individual academic interests and creating a better society; and

7. To give rise, by all these means, to a national identity which will form a foundation for the growth of obedience to Allah SWT and his prophet, loyalty to the Monarch and love towards the Bruneian nation; and to integrate further in the education system both efficiency and flexibility in order to meet the development needs of the country.

The education policies listed above have equal priority and, to some extent, are inter-related towards achieving the national goals as stated earlier.

If these are the identified ends to be attained, there is a recognised need for proper planning and the creation of practical measures to be able to develop appropriate strategies using effective tools thus assuring successful policies implementation.

The Ministry of Education, Brunei Darussalam has formed a number of Departments to set guidelines and strategies to direct the system towards the policies recommended.

It is the intention of the Ministry to foster the all-round development of each individual from the physical, mental and spiritual points of view, and in terms of aesthetic disposition, in order to make him or her into a Brunei Citizen who will uphold the aspiration of the nation. Other short term objectives are:

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- a) To make each individual fluent in Malay and devoted to the interests of the Malay Language as the official language, while not neglecting English, in which proficiency is also essential;
- b) to inculcate Islamic values in each individual so that the new generation will always obey, display and hold high the teachings of Islam;
- c) to cultivate in each individual a sense of loyalty to the Monarch, the nation and the law as well as awareness of his responsibility as a citizen and the obligation to act upon that responsibility;
- d) to cultivate in each individual the values and cultural norms of Brunei society, according to the principles of a Malay Islamic Monarchy;
- e) to implant a love of peace, harmony, mutual help and unity among the citizens and residents of the country;
- f) to mould in each individual the desire for progress; confidence in one's own ability; creativity; innovativeness; and sensitivity to contemporary change in the interest of adaptation to the demands of the age, though consistent with the cultural values, ethics and goals of the nation;
- g) to speed up the development of manpower resources in the form of citizens who are capable, rational and responsible, so that they can improve their standard of living and make a contribution to the development of the country.

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However, such goals and objectives as have been mentioned cannot be attained without formulating practical strategies for the improvement of basic education, which is the main theme of this paper.

Status of Education

In Brunei Darussalam, education is universal but not compulsory. This does not mean that education is not given the necessary priority as an important agent for development. In recognition of the priority accorded to it by the government of Brunei Darussalam, education is provided free of charge to all citizens from the pre-school level (at the age of 5) up to tertiary level. Every citizens is given equality of opportunity in education.

However, citizens and residents also have the option of sending their children to non-government schools if they so wish. Non-government Schools coexist with government schools in Brunei Darussalam. In other words, education is provided by both the private and public sectors. Both, however, are required to follow curriculum which is subject to national educational policy. Other types of schools available in Brunei Darussalam are those that come under the day to day administration of the Ministry of Religious Affairs. Such schools are mainly concerned with the provision of basic Islamic knowledge which enables children to appreciate and practise Islam as a way of life.

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The Concept of Quality of Education

Quality in education is a vague concept that is open to different perceptions. It is a matter of judgement and no specific yardstick can be used to measure it. To a certain extent one can measure it by the number of well-educated persons produced by the system implemented. The quality also can be viewed by looking at the achievement of policies or objectives that have been identified. The first view is more biased toward the quantity rather than the quality. On the other hand, the second view is more applicable in the case of Brunei Darussalam.

It is the intention of the Ministry of Education that education should be a means of improving the standard of living and producing citizens who will live in society without causing any social problems. Therefore, to achieve high quality education in the country, all implementation factors need to be considered. Ways to achieve this need analysis and assessment.

Management and Administration

A better quality product is dependent on good and efficient management. This is certainly valid when one talks about the management and administration of education. For this purpose, our discussion will focus on administration in Brunei Darussalam both at ministerial and school levels. The Ministry plays an important role because almost all policies are decided at this level. School administrators are essential in that they are directly involved in implementing policies.

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With the resumption of full independence by Brunei Darussalam in January 1984, the Ministry of Education and Health was formed under a single Minister. Later, it was decided that it would be better for separate Ministries to look after these two essential elements of life. Thus, in October 1986, both the Ministry of Education and the Ministry of Health were formed as separate entities.

Structurally the Ministry is divided into six departments namely 2 : 3

- a) The Department of Schools
- b) The Department of Planning, Development and Research
- c) The Department of Administration and Services
- d) The Department of Schools Inspectorate
- e) The Department of Curriculum Development
- f) The Department of Examinations.

Each Department is given responsibility for a specific area but is expected to coordinate with other departments in carrying out functions and roles. 4

- 2. Administrative and organisational structure of the Ministry of Education is given in the appendix.
- 3. Education in Brunei Darussalam, published by the Ministry of Education, 1990.
- 4. For details of the roles and functions of each Department refer to Brunei Annual Report 1985/86, published by the Broadcasting and Information Department, Prime Minister's Office.

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The Departments primarily concerned with ensuring quality education is the Department of Schools and the Department of Curriculum Development. The roles of other Departments are supportive and yet complementary.

The Department of Schools

The Department of Schools is headed by a Director who is assisted by a number of officers. There are various sections and units under his/her direction. The primary and secondary sections are responsible for these two levels of education respectively. Primary pupils are usually aged 5 to 11 while those in secondary are normally aged between 12 and 18. (See chart 2)

The concept of Muzakarah (consultation) is the basic procedure practised in departmental and inter-departmental administration. Policy approved at the ministerial level will be discussed at the departmental level before it is passed on to heads of school for implementation. On the other hand, headmasters (primary) and principals (secondary) will provide feedback to the Department of Schools as to whether a policy is deemed suitable or otherwise. Similarly, headmasters and principals normally refer to the Department of Schools before any fundamental decision is taken that may affect their schools. Should there be any problem, the Head will highlight the difficulties and suggest a possible alternative for the project to be implemented successfully. With this form of administrative procedure (Muzakarah), many problems are solved and the probability of success for each project is fairly high.

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At school level, principals and headmasters have their own administrative system. The administration of the school is the responsibility of the Head and his/her Assistant. Subject to a number of constraints, the general guidelines set by the Department of Schools are expected to be implemented.

The Ministry normally appoints experienced and qualified Bruneian education officers to become headmasters of primary schools and principals of secondary schools. Assistant Headmasters and Principals are also appointed by the Department of Schools.

In many schools, there are Parent/Teacher Associations (PTA's). The PTA's provide an effective mechanism for staff and teachers to meet with parents and others in the general community to discuss ways and means of improving teaching and learning. These have been found to be the most effective way of making both school and society meet to discuss way to improve learning. Such Association also enable parents to play their role by contributing ideas and perhaps materials for the benefit of their children.

Parent/Teacher Associations tend to be more popular and successful at the primary school level, possibly because primary schools located in rural areas have a closer societal relationship. Many schools have benefited from the formation of such associations in which teachers have been offered more opportunity to discuss the pupils' program with their parents by organising functions in which all three parties - teachers, pupils and parents - can participate together.

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Curriculum and Resources

With regard to curriculum, it is the intention of the government of Brunei Darussalam that the knowledge to be imparted to the pupils should be in line with the aspirations of the nation and at the same time should always be in line with the Islamic teachings and values. This can only be guaranteed by designing relevant objectives. The curriculum of the schools in the country is centralised and developed by the Department of Curriculum Development.

The Curriculum Development Department (CDD)

The CDD is an integral part of the Ministry of Education. Functions carried out by the Department include producing curricular programmes in accordance with educational policies as decided at the ministry level. The role and functions of the CDD are:-

- a) to study, plan and prepare curricular programme for schools in accordance with the National Policy;
- b) to prepare and produce books including textbooks, workshops, teaching aids, educational media programmes and curricular materials such as school syllabuses and teacher's guides;
- c) to carry out controlled experiments and trials of the various curricular programmes and materials in the classroom;
- d) to evaluate and improve curricular programmes and other materials prepared so as to determine their suitability as well as monitoring the quality of materials produced;

- e) to give guidance to teachers in the use of the prepared programmes and teaching aids so that teachers are properly oriented in the use of these materials;
- f) to disseminate ~~information~~ relating to new practice and innovation in curriculum development;
- g) to review, evaluate and recommend basic textbooks and supplementary and reference books, as well as other teaching and learning aids for use in schools.

The most fundamental and primary task of the Department is to design and create applicable and localised syllabuses.

In implementing its policy to standardise curriculum for all government and non-government schools, the Department has planned and devised curricula in line with national educational objectives. This has been successfully implemented and almost all educational institutions in the country conform to a common curriculum except for schools under the Ministry of Religious Affairs. This does not have any adverse implications on the educational system because the nature of religious study has a special emphasis and needs a different type of syllabus. However, where school subjects are common, the national syllabuses are used because to reflect the content to be examined in the public examinations which are conducted nationally by the Department of Examinations.

At the primary school level, the curriculum is more structured and has rather less flexibility. This is because at such a critical period of a child's development the most basic and universal educational characteristics need to be implanted.

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Not until children develop the basic skills can a more diversified curriculum be offered to them and the curriculum has been designed accordingly. 5

For instance, at pre-school level the curriculum is designed to emphasise the following objectives:

- i) to promote the development of character, ability, interest and physical skills;
- ii) to provide general education for mental physical, emotional and social development;
- iii) to provide basic education in the three Rs (reading, writing and arithmetic);
- iv) to provide spiritual and moral education.

At lower primary level, the stress is more on the developmental processes of the children. At this stage, aims are:

- i) to emphasise the development of creativity and basic skills in the three Rs;

5. Details of the school curriculum are attached in the appendix.

- ii) to reinforce these skills through the provision of learning situations, which will enable pupils to practise the skills;
- iii) to establish sound moral and spiritual principles;
- v) to emphasise strongly the teaching of Jawi (the Arabic type written script of the Malay Language).

In the next two years of primary education, syllabus is geared to prepare pupils for a standardised evaluation test, namely the Primary Certificate of Education (PCE), which is administrated by the Department of Examinations.

Pupils passing this examination are promoted to the secondary level where learning is more demanding with the curriculum having a more academic orientation. Normally, students spend 3 years at lower secondary level before sitting for the Brunei Junior Certificate of Education. After this stage, students have the following options:

- a) to continue to the upper secondary level for two or three years before sitting the Brunei-Cambridge Certificate of Education (O Level);
- b) to pursue vocational education in a technical or engineering college;
- c) to take up employment.

With regard to assessment, schools conduct montly tests to monitor the achievement of individual pupils. The results of the test are forwarded to the parents for checking and signature. It is expected that parents will assist their children if the results are discouraging. At the end of the year, public examinations take place for Primary 6, Form 3, Form 5 and Upper 6 students. They take PCE, BJCE, BGCE 'O' level and BGCE Advanced level respectively. The last two examination categorises are important for candidates to qualify for higher studies.

Before a student is allowed to sit for one of these examinations, he or she has to fulfill the requirements set by the Ministry. Such requirements include regular attendance.

Learning Materials and Support for Teachers

Since independence the Departments within the Ministry have been concerned with a number of projects as a means of upgrading the quality of education. The Department of Curriculum Development has conducted workshops for teachers involved in teaching new areas of the curriculum. This sort of direct training and updating is expected to provide teachers with more insight into new aspect of the curriculum and teaching materials.

Two essential components have to be correlated with the curriculum if teaching is to be effective. One is resources and teaching aids and the other is teachers. Additional teaching materials are also needed to enhance learning motivation. Schools will normally have been allocated funds for the purchase of hardware such as overhead projectors, slide projectors, Science models etc.

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Nevertheless, teachers are still considered as the most important resource in the educational process for Brunei Darussalam. Although teachers are normally only on duty for half a day, the remainder of the regular working day is used for lesson preparation and correction of students' work as part of their duties. Teacher remuneration is relatively high compared to other jobs in the government sector.

Because of the importance of their work, the Ministry of Education is much concerned with the performance of teachers. Teachers are given every encouragement to upgrade their qualifications with older and more experienced teachers being afforded the opportunity to undergo relevant courses overseas. Teachers are also given the opportunity to attend in-service courses organised by Universiti Brunei Darussalam (UBD). The Ministry, in collaboration with UBD, has organised seminars, workshops, and short courses on new methods of teaching, particularly in subjects which pupils find difficult, such as science and mathematics. The purpose of encouraging teachers to attend such courses is primarily to enable them to be aware of the changing nature of education and the fact that methods and content are constantly being updated.

Young teachers at the beginning of their careers are normally more aware of this challenge and tend to be more adaptable. It is the policy of the Ministry to ensure that the teaching-learning process proceeds at the optimum level. More qualified teachers are expected to be produced by the local university specifically to cater for the needs of the increasing numbers in schools.

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Technical and Vocational Education and Training

In Brunei Darussalam, it is the view of Government, that the important solution to future economic growth and productivity lies in technical and vocational education and training, and that citizens must be prepared to enter the multitude of skilled jobs available today, and the even greater number that will arise in the future. In keeping with this intent, seven technical and vocational institutions, including an Institute of Technology, have been established over the past decade or so, and offer full and part-time courses and programmes in a wide range of subjects to both youth and adults with varying levels of educational attainment. To compliment the integrated network of technical and vocational institutions, two new vocational schools are presently being built under the provisions of the Fifth National Development Plan (1986 - 1990) and a third is planned. In particular, the vocational schools will effect a radical improvement in basic entry-level skills training for school leavers.

Over recent years, the number and variety of courses and programmes offered at the technical and vocational institutions have increased dramatically. Charged with such tasks as assisting in job creation, the provision of re-training and upgrading, technology transfer and entrepreneurship training, there has been an accelerating search for course and programme relevance to address the new issues of education, training and employment required to meet economic development goals in the coming decades.

Advances in technologies in Brunei Darussalam have also required the updating of curricula, including the introduction of modularized competency-based formats to ensure more flexible and efficient approaches to training. In addition, the growing influx of adult learners to the institutions has put pressure on the system to be flexible about course and programme start times, instructional methods, and the sharing of equipment and facilities.

The Ministry of Education recognises that the challenges, problems and opportunities of contemporary society are such that citizens must continue to develop if they are also to cope with modern conditions of employment. With this in mind, the Ministry will continue to improve, co-ordinate, control and expand the technical and vocational education and training system in Brunei Darussalam to ensure both youth and adults, regardless of educational attainment levels, are provided with a variety of education and training opportunities from basic entry to sub-professional levels. Fundamental to the planning being undertaken by the Ministry is the concept of providing satisfactory education and training experiences for lifelong learning.

Continuing Education

In Brunei Darussalam education is provided not only for normal and able persons. Physically or mentally handicapped children are provided with courses of study in special schools that are adapted to the nature of their disability. However, these are under a different Ministry (Ministry of Health). To a great extent, the Continuing Education Unit of the Ministry of

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Education has expanded its activities to provide general education to all interested residents. The courses offered are both academic and vocational. Courses include home economics, commercial studies and foreign language. Classes are generally conducted in the evening as the teachers are part-timers while the learners are mostly either workers or housewives.

International Linkages on Education

This paper would not be complete without reference to the international assistance recieved in upgrading the standard of education in Brunei Darussalam. The education system of the country has always had a British orientation but after the regaining of independence, remarkable changes have taken place. The curriculum has been much more closely tailored to local needs and national aspirations have been given priority.

As a member state of ASEAN, Brunei Darussalam has automatically become a member of various educational organisations with their projects being open to participation by Bruneians. This is certainly useful for the further development of the nation's education system. For example staff exchange and training opportunities are freely available. In fact, through various programmes, our youth have been exposed to the culture and values of other countries by means of educational tours, exchanges and so on.

The provision of teachers on short-term contracts from overseas organisations (as the Centre for British Teachers (CFBT)) is helping to upgrade the standard of English in this country. In addition, the United Nations and various Commonwealth Organisations have provided assistance to education initiatives in Brunei Darussalam.

Conclusion

This paper has attempted to highlight ways in which Brunei Darussalam is progressing in its efforts to upgrade the skills and knowledge of its people.

In the context of Brunei Darussalam's education as a whole, the nation is in the process of achieving its objectives and is gradually managing to overcome its manpower shortages, especially in the technical field. Brunei Darussalam is also proud that its education system is slowly shaping the kind of society being aspired to. It cannot be denied that the development of science and technology sometimes brings with it problems such as the spread of materialistic ideas, decreased sensitivity, less contact with nature and lack of due regard for the dignity of life. However in Brunei Darussalam, moral teaching based on Islamic values and the Malay Islamic Monarchy Concept has more than compensated for this and is helping to keep the nation on its progressive and chosen path. 6

6. This concept is in fact the national ideology, the way of life practised by Bruneians since the country first existed as a nation. This concept has enabled Brunei Darussalam to remain a sovereign Sultanate.

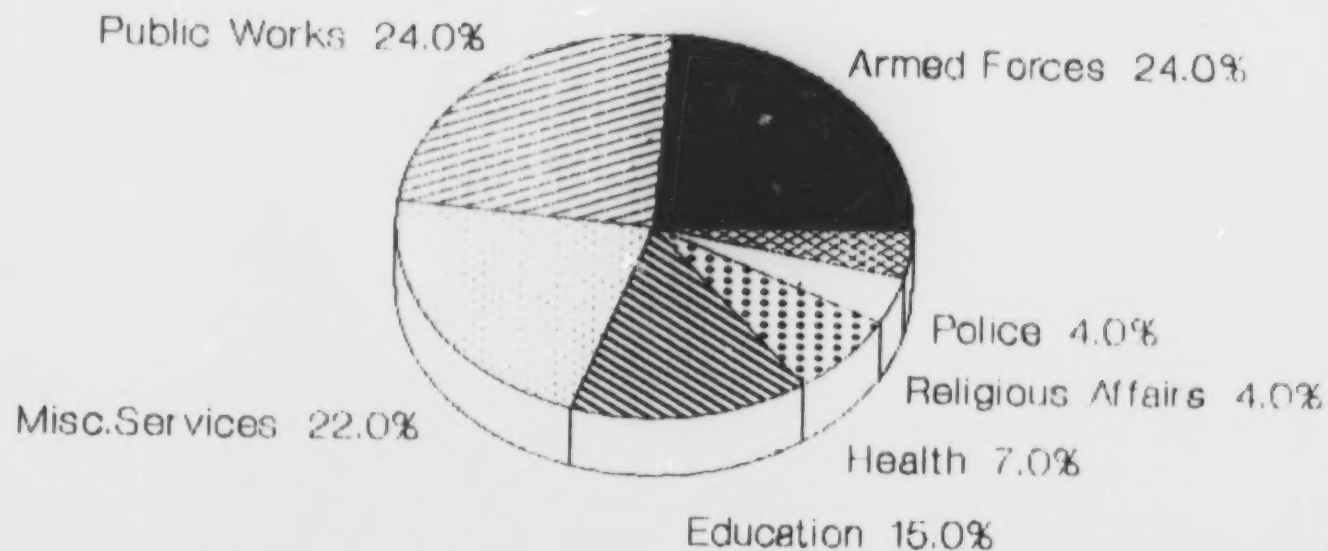
There is now universal primary and lower secondary education available to youth in Brunei Darussalam. At the same time, the older generation, particularly those who did not have the opportunity to attend school during their childhood, can now pursue continuing education courses. By providing educational opportunities to both the youth and adults, the rate of illiteracy in Brunei Darussalam is minimal.

The hallmark of Brunei Darussalam's educational expansion has been the establishment of the University of Brunei Darussalam. Its existence has inspired all parents to aspire for their children attend to this, the ultimate higher educational institution in the country. The new generation of youths can pursue higher educational studies without having to go overseas. Working adults are also given the opportunity to achieve their ambitions by graduating, and thus may upgrade their living conditions.

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Government Expenditure 1988

Functional Allocation



Source: Ministry of Finance

EXPENDITURE ON EDUCATION, 1978-88

The Government has expended large sums of money on education. The allocation of funds for this purpose in the year 1989 is about B\$275,431,041.

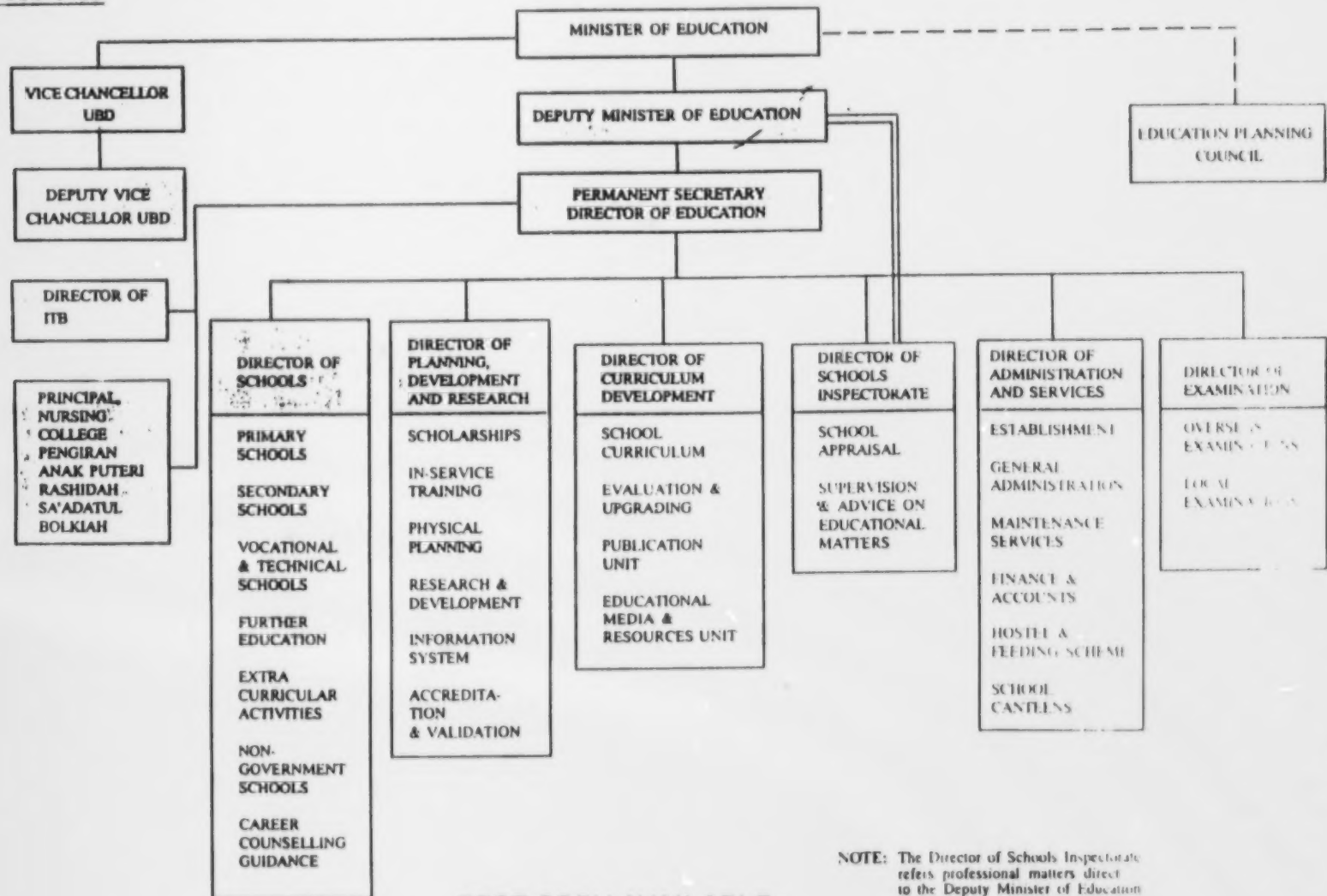
The following figures indicate the increase in budgets for education over the past 11 years.

Expenditure on education for the financial years 1978-1988 is shown in the following table:

YEAR	BUDGET
1978	B\$70,620,537.11
1979	B\$82,796,315.18
1980	B\$111,954,702.00
1981	B\$134,323,512.00
1982	B\$134,603,508.00
1983	B\$211,246,856.00
1984	B\$210,971,106.00
1985	B\$225,445,395.00
1986	B\$242,832,687.00
1987	B\$242,878,433.00
1988	B\$296,100,229.00

ADMINISTRATIVE AND ORGANISATIONAL STRUCTURE OF THE MINISTRY OF EDUCATION BRUNEI DARUSSALAM

APPENDIX : II



NOTE: The Director of Schools Inspectorate refers professional matters direct to the Deputy Minister of Education
Structure — January, 1981

Age



PRE-SCHOOL STATISTICS

	Year	Number of Schools	Number of Classes	Number of Teachers	Number of Children
Government Schools	1987	116	221	221	3711
	1988	116	218	218	3973
	1989	116	213	213	3820

PRIMARY SCHOOL STATISTICS

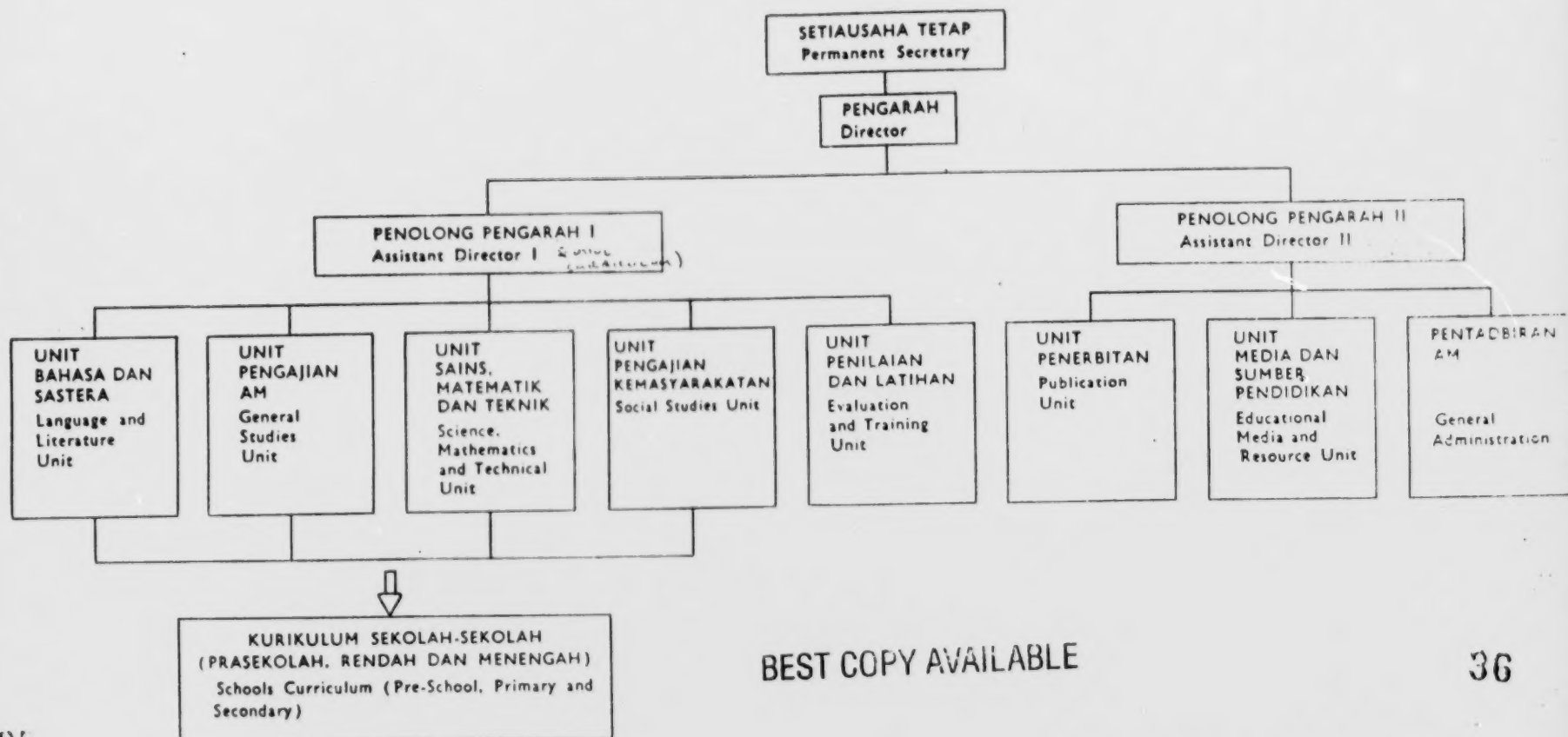
	Year	Number of Schools	Number of Pupils	Number of Teachers
Government Schools (Ministry of Education)	1987	116	27,847	972
	1988	116	29,495	1,300
	1989	116	30,194	1,932

SECONDARY SCHOOL STATISTICS

	Year	Number of Schools	Number of Pupils	Number of Teachers
Government Schools (Secondary English, Secondary Malay/ English)	1982 (i)	13	14,890	773
	1983 (ii)	18	15,931	1,263
	1984	18	15,497	1,320
	1985	16	14,813	1,278
	1986	19	15,332	1,370
	1987	16	13,681	1,271
	1988	16	14,254	1,224
	1989 (July)	16	15,518	1,377

STRUKTUR ORGANISASI
JABATAN PERKEMBANGAN KURIKULUM
KEMENTERIAN PENDIDIKAN
NEGARA BRUNEI DARUSSALAM

ORGANISATIONAL STRUCTURE
CURRICULUM DEVELOPMENT DEPARTMENT
MINISTRY OF EDUCATION
BRUNEI DARUSSALAM



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SCHOOL CURRICULUM

PRE-SCHOOL

SUBJECTS	WEEKLY TIME ALLOCATION	LANGUAGE MEDIUM
Pre-School education comprises: Basic Language, Numeracy, Courteous Behaviour, Basic Islamic Religion, Movement, Self Discipline, Singing and Development of Talent. These basics are taught through an integrated approach, using examples from the children's own environment. (The teaching of the content of one subject is not separated from that of another). Informal teaching methods are used throughout.	There is no strict division of the timetable into subjects since an integrated approach, which is largely activity-based, is used.	All teaching is in the medium of the Malay Language.

LOWER PRIMARY
(Primary I - III)

The table below shows the subjects, their time allocation and the medium of instruction.

NO.	SUBJECT	PERIODS PER WEEK (1 period is 30 mins)	LANGUAGE MEDIUM
1.	Malay Language (the study of Jawi begins from the third term of Primary I)	10	Malay
2.	English Language	10	English
3.	Mathematics	12	Malay
4.	General Studies	4	Malay
5.	Islamic Religious Knowledge	3	Malay
6.	Physical Training	2	Malay
7.	Art and Handicraft	2	Malay
8.	Civics (Singing, Recreational Activities, The Traditional Customs and Way of Life of Brunei Darussalam)	2	Malay
	TOTAL	45	2

* Half an hour each morning is devoted to early morning activities such as gardening and cleaning the school, before the commencement of normal lessons.

UPPER PRIMARY **(Primary IV - V)**

The table below shows the subjects studied at Upper Primary level, their time allocation and the medium of instruction:

NO.	SUBJECT	PERIODS PER WEEK (1 period is 30 mins)	LANGUAGE MEDIUM
1.	Malay Language	10	Malay
2.	English Language	10	English
3.	Mathematics	10	English
4.	Science (including Health Science)	3	English
5.	History	2	English
6.	Geography	2	English
7.	Islamic Religious Studies	3	Malay
8.	Physical Education	2	Malay
9.	Art and Handicraft	2	Malay
10.	Civics (Singing and Recreational Activities based upon the traditional way of life of the people of Brunei Darussalam	1	Malay
	TOTAL	45	2

+ Half an hour each morning is devoted to early morning activities such as gardening and cleaning the school before the commencement of normal lessons.

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LOWER SECONDARY **(Form I - III)**

1. Compulsory and Examinable Subjects.

SUBJECT	LANGUAGE MEDIUM	PERIODS PER WEEK (1 period is 35 minutes)
Malay Language	Malay	5
English Language	English	8
Mathematics	English	6
Integrated Science	English	6
History	English	3
Geography	English	4
Islamic Religious Studies	Malay	3
TOTAL 7		35 periods

2. Optional and Examinable Subjects. (Only one subject to be chosen from the following list).

SUBJECT	LANGUAGE MEDIUM	PERIODS PER WEEK (1 period is 35 minutes)
Agricultural Science	English	3
* Home Science	English	3
Commercial Studies	English	3
** Third Language (Bahasa Ketiga)		3
Woodwork	English	3
Metalwork	English	3
Art & Craft	Malay	3
** Music	Malay/English	3

* Home Science replaces Needlework.

** Subject to the availability of teaching staff and response from students.

APPENDIX : IX

3. Non-Examinable Compulsory Subject

S U B J E C T	LANGUAGE MEDIUM	PERIOD PER WEEK
Physical Education	Malay	2

Total number of periods for all subjects per week at this level is 40.

**UPPER SECONDARY
(Form IV - V)**

1. Compulsory and Examinable Subjects.

A. Compulsory subjects for all students.

S U B J E C T	LANGUAGE MEDIUM	PERIODS PER WEEK (1 period is 35 minutes)
Malay Language	Malay	4 - 5
English Language	English	6 - 8
Mathematics	English	6
Science		
One to be selected from the following:		
- Agricultural Science	English	5 - 7
- Integrated Science	English	5 - 7
- Combined Science	English	5 - 7
- Human and Social Biology	English	5 - 7
- Science	English	5 - 7
• Biology	English	5 - 6
• Chemistry	English	5 - 6
• Physics	English	5 - 6

Students joining the Science Stream should choose one from these subjects.

APPENDIX X

Optional Subjects

1. Group I (for the Science Stream)

Students who are to take a combination of subjects from group I should select at least two subjects from list A. Students who are interested in subjects from list B are allowed to choose one subject only from the list.

LIST A

SUBJECT	LANGUAGE MEDIUM	PERIODS PER WEEK (1 period is 35 minutes)
Physics	English	5 - 6
Chemistry	English	5 - 6
Biology	English	5 - 6
Additional Mathematics	English	4 - 6
Geography	English	4 - 6
Economics/Principles of Accounts	English	4 - 6

LIST B

SUBJECT	LANGUAGE MEDIUM	PERIODS PER WEEK (1 period is 35 minutes)
History	English	4 - 6
English Literature	English	4 - 5
Malay Literature	Malay	4 - 5
Islamic Religious Studies	Malay	4 - 5
Art & Craft	Malay	4 - 6
Other Languages	Specific Language	4 - 5

APPENDIX : XI

2. Group II (for the Arts Stream)

Students who are to take a combination of subjects from II should take at least two from the following list:

SUBJECT	LANGUAGE MEDIUM	PERIODS PER WEEK (1 period is 35 minutes)
Geography	English	4 - 6
History	English	4 - 6
English Literature	English	4 - 6
Economics	English	4 - 6
Principles of Accounts	English	4 - 6
Commerce/Commercial Studies	English	4 - 5
Science/Integrated Science/ Combined Science/Biology/ Human and Social Biology		
Food and Nutrition	English	5 - 7
Home Management	English	4 - 5
Fashion and Fabrics	English	4 - 6
Malay Literature/Art & Craft	Malay	4 - 6
Islamic Religious Studies	Malay	4 - 5
Other Languages	Specific Language	

3. Group III (for the Technical & Vocational Stream)

Students who are to take a combination of subjects from Group III should at least take two optional subjects from list A. Students who are interested in taking subjects from list B are allowed to choose one subject only from the list.

List A

SUBJECT	LANGUAGE MEDIUM	PERIODS PER WEEK (1 period is 35 minutes)
Engineering Science/Physics	English	4 - 6
Agricultural Science	English	4 - 5
Food and Nutrition	English	4 - 6
Woodwork/Metalwork/Metalwork Engineering/Craft, Design & Technology	English	4 - 6
Electronics	English	4 - 6
Geometrical & Mechanical Drawing/ Geometrical & Building Drawing	English	4 - 6
Fashion and Fabrics	English	4 - 6
Home Management	English	4 - 5

SUBJECT	LANGUAGE MEDIUM	PERIODS PER WEEK (1 period is 35 minutes)
Geography	English	4 - 6
Commercial Studies/Commerce	English	4 - 6
Principles of Accounts	English	4 - 5
Islamic Religious Studies	Malay	4 - 5
Malay Literature	Malay	4 - 5
Art & Craft	Malay	4 - 6

SIXTH FORM

There are two colleges under the Ministry of Education which offer 'A' level subjects. They are the Duli Pengiran Muda Al-Muhtadee Billah College (MDPMAMB) and the Paduka Seri Begawan Sultan Science College (MSPSBS).

Most sixth form students follow nominal two year courses in three subjects, leading to the externally-assessed Brunei Cambridge G.C.E. 'A' level examination in November of the second year. Students at MDPMAMB follow a timetable which consists of a daily 15 minute tutorial session, and five or six 55 minute classroom lessons for each subject. Those who study at MSPSBS attend 35 minute classroom lessons for each subject.

Below is a list of subjects offered for study at MDPMAMB:

SUBJECT	LANGUAGE MEDIUM	PERIODS PER WEEK (in hours) (1 period is 55 minutes)
Accounts	English	6
Art	English	6
Bahasa Melay	Malay	6
Biology	English	6
Chemistry	English	6
Economics	English	5
English Language	English	4
English Literature	English	4
General Paper	English	4
Geography	English	6
History	English	5
Mathematics	English	6
Physics	English	6
Public Affairs	English	6
Syariah	Malay	5
Usuluddin	Malay	5
Civics	Malay	5
Total 17		90 hours

MSPSBS only offers the Science subjects plus Mathematics, English Language and Geography at Sixth Form level.

Appendix XIII

Number of Students by Degree Programme 1987/88

Degree Programme	YEAR I			YEAR II			YEAR III			TOTAL		
	M	F	T	M	F	T	M	F	T	M	F	T
BA (Pendidikan) Pengajian Islam Education (Islamic Education)	8	4	12	8	7	15	3	6	9	19	17	36
BA (Pendidikan) Bahasa & Kesusasteran Education (Malay Language & Literature)	16	8	24	18	11	29	22	23	45	56	42	98
BA (Education)	8	8	16	--	--	--	--	--	--	8	8	16
BA (Primary Education)	5	15	20	11	10	21	--	--	--	16	25	41
BSc (Education)	9	15	24	8	16	24	11	4	15	28	35	63
BA (Aliran Melayu) (Malay - Medium)	31	6	37	30	14	44	39	12	51	100	32	132
BA (Management Studies)	12	11	23	9	19	28	15	3	18	36	33	69
BA (Social Policy & Pub. Admin.)	5	11	16	6	7	13	8	18	26	19	36	55
TOTAL	94	78	172	90	84	174	98	66	164	282	228	510

Note: M = male

F = female

T = total

Universiti Brunei Darussalam
Predicted Number of Teacher Graduates
for Brunei Darussalam
1989 - 1992

1. Experienced Teachers:
(In service)

	Year				<u>Average</u>
	1989	1990	1991	1992	
B.A Pendidikan (Bahasa/Kesusasteraan)	36	13	12	22	21
B.A. Ed.	0	0	4	8	3
B.A.Prim.Ed.	10	20	21	0	13
B.Sc Ed.	0	0	0	0	0
B.A.	15	7	11	6	10
Total	61	40	48	36	47

2. Others Undertaking
Education Degree
(Pre-Service)

B.A.Pendidikan (B & K)	9	21	12	0	11
B.A.Ed	0	0	12	11	6
B.A.Primary Ed.	10	0	0	0	3
B.Sc Ed.	15	24	23	21	21
B.A.	36	37	25	25	31
Total	34	45	47	32	40

....2/-

3. Total Graduate Teachers (In Service + Pre-Service)

	1989	1990	1991	1992	<u>Average</u>
B.A.Pendidikan (B & K)	45	34	24	22	31
B.A. Ed.	0	0	16	19	9
B.A.Primary Ed.	20	20	21	0	15
B.Sc.Ed.	15	24	23	21	21
B.A.*	51	44	36	31	41
Total	131	122	120	93	117

* Undergraduates who opt for non teaching job. The Ministry may request then to become teachers and go for education course for another year.

It is the Ministry wishes to increase the number of graduate teachers and at the same time to meet the localisation policy.

Source: D. Danis Report on teachers Supply Needs of Brunei Darussalam Government Schools 1988-2000.

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CANADA

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IMPROVING THE QUALITY OF BASIC EDUCATION IN CANADA

Prepared for the Eleventh Conference of
Commonwealth Education Ministers
Barbados
October 29 to November 2, 1990

A. RESPONSIBILITY FOR EDUCATION IN CANADA

This paper on improving the quality of basic education in Canada has been prepared by the Secretariat of the Council of Ministers of Education, Canada (CMEC), in response to a request from the Commonwealth Secretariat. The structure of the paper corresponds to the agreed framework with one exception: discussion of policies and strategies has been integrated into the descriptions of the resulting programs. In keeping with the decentralization of responsibility for education in Canada, information is presented by province and territory rather than nationally, with emphasis placed on a brief overview and detailed descriptions of some exemplary programs.

Canada's constitution provides for a federative system in which legislative, executive and judicial powers are shared or distributed between the federal government and the governments of the provinces. The Constitution Act, 1867, provides in part that "in and for each province, the Legislature may exclusively make laws in relation to education." Each of the ten provinces has developed its own educational structures and institutions and, while similar to one another in many ways, they reflect the circumstances of regions separated by great distances and the diversity of the country's historical and cultural heritage.

Within each province, the Acts establishing the province, the statutes of the provincial legislatures, and the rules and regulations of local school boards set out the specific responsibilities for public education.

Provincial authority over education brings with it the power to delegate authority to local school boards or to other bodies set up or recognized by the province.

In almost all of the provinces, members of school boards are elected by public ballot but, in some cases, they are appointed by the province and/or municipal governments. School boards in Newfoundland are made up of members, two-thirds of whom may be publicly elected and the remainder appointed by the Denominational Education Councils which represent the main church groups. The powers and duties of these boards and bodies are defined in the provincial statutes and are, in general, consistent throughout Canada. The delegation of authority is not a surrender by the province of its authority over school matters, because the provincial legislatures determine the scope of local control. The authority delegated to school boards by the provincial authorities is permissive authority and it is given at the discretion of the provincial government.

The authority exercised by school boards generally includes implementation of curriculum, the operation and administration of school systems, acquisition of required financial resources, initiation of proposals for new construction or other major capital expenditures, and, within provincially established guidelines which may vary from province to province, all related staffing responsibilities.

The government of Canada (the Federal Government) is directly responsible for education in the Canadian Armed Forces, education of Canada's aboriginal peoples (Indian and Inuit), and education and training in the Correctional (penitentiary) Service. The government has assigned responsibility for the delivery of educational services to the two northern territories through two federal statutes, namely, the Northwest Territories Act and the Yukon Act. It provides funding for education in these territories, each of which has established its own department of education and manages the delivery of educational services.

In addition to these direct responsibilities, the federal government supports education in other sectors through a number of programs and plays an important role in providing financial support to postsecondary education and training.

To examine policies and programs designed to improve the quality of basic education, it will be necessary to examine briefly the structure of Canadian schools. (See Chart on grades and divisions in Appendix.)

1. PRE-SCHOOL PROGRAMS

Pre-school programs (kindergartens) operated by the local education authorities, which provide one year of pre-grade-one education for five-year-olds, are offered by all provinces with the exception of New Brunswick and Prince Edward Island. While most currently provide a half-day kindergarten, the Nova Scotia Primary Program for 5-year olds may occupy one-half or one full day at the discretion of the School Board. Ontario has announced funding for full-day kindergarten and is phasing in a requirement that all school boards offer a junior kindergarten, in support of its intention to improve the quality of education, starting with the early childhood years which it has identified as "the most important years for acquiring basic learning and social skills." In addition, British Columbia has announced it will fund full-day kindergartens for native Indian students, handicapped students and students for whom English is a second language. Some school boards in Manitoba, Ontario and Quebec also provide an optional junior kindergarten for four-year-olds.

Kindergarten and the private nursery schools are designed to encourage children's physical, intellectual, social and emotional development. Alberta does not offer the traditional kindergarten, but has a unique program called Early Childhood Services, which strives to integrate many aspects of a child's development by combining educational, health, social, and recreational services.

2. ELEMENTARY SCHOOLS

Elementary usually refers to those schools offering kindergarten or grades one to six or eight (normally children aged 6 to 11 or 13), and secondary to those schools with programs for higher grades (ages 12 or 14 to 18). However, the point of transition from elementary to secondary may vary from province to province. Some school boards break up the elementary-secondary continuum into schools which group together, for example, kindergarten to grade 6, grades 7 to 9 (junior high), and 10-12 (senior high). Elementary school curriculum concentrates on a broad, inter-disciplinary orientation to

basic learning in reading, writing, and computation, plus science, social studies, music, and art, and French or English as a second language in the case of Nova Scotia.

3. SECONDARY SCHOOLS

To provide for different needs and abilities, secondary ("high") schools offer a variety of academic and vocational programs. Some larger centres have specialized technical or vocational secondary schools, or two-year occupational schools, but most secondary schools are composite in nature, offering a wide range of academic, business and technical courses.

Graduation can take a student to employment, university, a trade school, or another non-university educational institution. The Quebec educational system is unique in that five years at the secondary level (grades 7 to 11) are followed by an intermediate level of two or three years at a **collège d'enseignement général et professionnel (CEGEP)**. At this level, students can select a program leading to university or receive training in a specific occupation.

Secondary schools are mainly organized around subject disciplines, and students move through the school taking courses from different teachers. Certain subjects are compulsory in most provinces for a "core" curriculum and, over and above that, students select options or elective subjects for credit. There is a system of credit promotion by subject rather than by year-long grade. The flexibility of options and timetabling means that schools can operate on a two-semester system in some provinces or schools.

4. PRIVATE SCHOOLS

Private schools, which may have a religious or other special affiliation, may operate in any province provided they meet the regulations and standards set by the province. They are independent from the public system and charge fees. In most cases, they follow closely the curriculum and diploma requirements of the department or ministry of education. Five provinces - Alberta, British Columbia, Manitoba, Quebec, and Saskatchewan - provide some form of financial assistance to such private schools. In 1989-90, about 4.7 per cent of the country's total elementary and secondary school enrolment was accounted for by private schools.

B. INTRODUCTION

As Canada moves closer to the twenty-first century, it has become apparent that a major challenge to be faced is improving the quality of education for all of its citizens. The explosion in knowledge and technology of the 1990s combined with our modern, competitive and increasingly globalized economy require a more educated population, one which is able and willing to retrain as technical advances surge ahead.

Canadian educators realize that they have many challenges to be met: some studies have shown that as many as 24 per cent of our adult population are functionally illiterate (of these, almost half are over 50 years of age), that 25 per cent of students fail to achieve a school leaving diploma, and that many people finish secondary school with few marketable skills, only to join the ranks of the unemployed. Simply put, our society cannot afford wasted talent. We must continue to improve equality of opportunity, so that even the most disadvantaged groups get the best start in school and are assured access to the lifelong learning which is today's reality. The very nature of Canada entails additional challenges: the vast distances and sparse population in the north, the two official languages and the aboriginal groups who are increasing their demands for self-government and local control of education, as well as the increasingly multicultural fabric of our society. Learning plays a vital role in the economic, social, cultural, and political well-being of Canadians; thus the provinces must work together to address the quality of education and training and their relevance to the demands of the 21st century. Our society and the future well-being of our citizens depend on the quality of education we can provide to all, whether they be children in primary schools or adults engaged in job retraining. Improving the quality of basic education is fundamental to a realisation of the other social changes that are required to allow Canadians to grow and prosper beyond the year 2000.

C. WAYS OF RAISING QUALITY

1. CURRICULUM AND ASSESSMENT

a. Curriculum Reform

Current trends in curriculum reform in Canada today are generally nation-wide, and indicate a stronger sense of direction with more emphasis on a more rigorous and systematic assessment, all aimed at improving the overall quality of education. While this appears at first glance to be a reprise of the familiar cry "back to the basics," the objectives emerge as a greater coherence and substance in curriculum, along with assurance that certain objectives are being met.

Virtually every province and territory has recently carried out extensive, in-depth studies of their education systems, resulting in, for fully half of the provinces, major revisions of their systems, including an increase in the number of compulsory courses and stricter requirements for a secondary school diploma. This originated in concerns for coherence, and a desire to provide our students with a solid grounding, as opposed to the more fragmented "cafeteria" approach to course selection which characterized the 60s and early 70s. The nation wide reorganization and renewal of education seen in

the past six years shows a renewed interest in the learning process, teaching methods and curriculum content.

Most provinces have moved to a redefinition of the basic elements of a school program, and, despite the diversity of Canada's educational systems, some consensus has emerged as to what constitutes the "basics." Generally, this includes language arts (with some jurisdictions requiring a second language), mathematics, science, social studies, and the appropriate use of information technology. Included in this is a knowledge of the principles and social impacts of science and technology. Most provinces are envisaging students who will be able to obtain, analyze and use information, apply problem solving skills and think critically and creatively, in all subjects. Employers on the whole echo the desirability of these qualities, and praise the capacity for independent (and hence life-long) learning.

In many provinces, curriculum reform has been initiated in recognition of the needs of special groups. Perhaps the major change in elementary education has been the trend towards "mainstreaming," that is, integrating handicapped children into regular classes, as much as possible. For example, Ontario's education system provides for a wide range of educational options for exceptional students, from full integration to residential schools, and requires school boards to provide programs and services best suited to each pupil's individual needs and abilities. Teachers are constantly facing new challenges in this, particularly the need to adapt their courses to meet the learning needs of each exceptional pupil, including the gifted. Resource teachers, teacher-aides, and coordinators of special programs are now widely used to assist in provision of these services, and several ministries have developed applicable guidelines.

The fast pace of the 20th century has resulted in public pressure to have the schools accept responsibility for a variety of social needs: family life education, including AIDS, alcohol and drug education, as well as tolerance and acceptance of racial and cultural minorities. Canada's burgeoning population of ethnic minorities has also had repercussions for our schools: educators must ensure that curriculum, policies, methods, and assessment procedures are consistent with multiculturalism policies, and that learning materials are free of bias and racial stereotypes.

With the realization that not all secondary school graduates proceed to post-secondary studies has come an increase in the size and importance of programs designed to prepare youth for entry into the world of work, and to assist in the school-to-work transition. Most provinces are redesigning and strengthening their technical and vocational programs, and are witnessing a growth in co-operative education programs, where students alternate between classroom and work placement. The redevelopment of the vocational program focuses on the acquisition of generic and adaptive skills, in such programs as career preparation and linkages between school and business and industry, all designed to prepare our students to face the demanding and rapidly changing job market. Quebec, for example, has established the following goals for its vocational training curricula: development of effectiveness in the exercise of a trade or profession, provision of knowledge about the workplace in general, development of the ability to learn and work effectively with a sense of responsibility, and occupational mobility. The fostering of "enterprise" or "entrepreneurial" skills is also receiving increasing attention. In Manitoba, enterprise skills are inherent in a number of vocational courses, particularly business, business principles, economics, law, and marketing. School districts in Newfoundland and Labrador are also involved with

locally based entrepreneurship courses and with the integration of life skills into a variety of courses at the junior and senior high levels.

Many provinces have instituted policies and procedures to verify that learning materials are free of sex-role stereotyping, and several jurisdictions have produced curriculum and resource guides designed to assist educators in providing courses free of gender bias, and in encouraging girls to choose non-traditional fields of study, such as science and trades and technology.

b. Assessment and Evaluation

Trends in pupil assessment include a shift at the elementary level from summative to formative evaluation, and, at the secondary level, an effort to introduce greater rigor into assessment processes. However one area is still in need of clarification: if it was reasonably straightforward to evaluate students when learning consisted of learning factual information or content, how does one measure the students' ability to think critically and to learn, the very things our education systems are focusing on now?

In the area of student assessment, there is a trend for provinces to seek more sophisticated ways of assessing student learning. Many provinces are incorporating performance assessments as a supplement to the paper/pencil multiple-choice format.

The search for accountability measures in many provinces has resulted in the introduction¹ of large-scale student achievement measures (sometimes known as provincial reviews) at certain grade levels and in certain subjects, and in the institution, to a limited degree, of provincial exams in the final year of secondary school. In Quebec, for example, the Ministry of Education provides school boards with examinations in all compulsory subjects at the end of the primary (grade 6) and secondary (grade 11) cycles. The results of these ministerial exams at the secondary level are made public, indicating the school board, median mark, and percentage of passes, in total and by subject. The pronounced focus on quality in education reflects a greater influence being exercised by a broader segment of the public than has previously been the case, due to an increasing concern by the public about Canada's economic competitiveness in an increasingly technological world, and our ability to thrive into the 21st century.

Many provinces are developing assessment strategies to evaluate the effectiveness of the curriculum as it relates to student learning and the status of curriculum implementation. A consensus seems to be emerging concerning the desirability of some indicators of educational quality. These indicators generally include measurement of such things as retention rates, achievement scores of students, adherence to core curricula, and enrolments, as well as achievement in university and college preparatory courses. There is general agreement that these areas are possible to measure, and that they are in some way related to quality education. With the greater attention accorded to the specification of core objectives and overall curriculum in our schools comes the desire to monitor, in a systematic fashion, the achievements of these objectives, and not just at the level of the student. Greater emphasis is now placed on

¹ In Newfoundland, the Department of Education has been administering province wide public examinations in most Senior High School subjects since the 19th century. The results of these examinations are also made public, indicating the school board, median marks, percentage of passes in total and by subject.

evaluation at all levels of the school system, including school, district, and provincial. Information from these indicators allows the schools, school boards, and the province to reinforce the areas of strength and to put additional emphasis on and resources towards any areas of concern.

In addition, all provinces are involved in either or both of two international projects: International Assessment of Educational Progress and the Project on International Educational Indicators of the Organisation for Economic Co-operation and Development's Centre for Educational Research and Innovation.

c. Indicators of Quality

Most ministries/departments of education have arrived at similar definitions of the quality of education and its products. In general, quality education is considered more likely to be present when systems:

- a. monitor and reduce drop-out rates
- b. outline, assess, and improve achievement of basic skills
- c. outline, assess, and improve higher-level skills
- d. increase enrolment in university and college preparatory level courses
- e. increase female enrolment in mathematics and science
- f. monitor and evaluate student achievement in all courses
- g. provide evidence of excellence through comparative studies
- h. measure expectations of the public, educational stakeholders and students
- i. measure levels of satisfaction of the public, educational stakeholders and students
- j. monitor efficiency and effectiveness in administration
- k. facilitate learning experience of students with special needs

d. Indicator Systems

At least five Canadian provinces are initiating the development of provincial indicator systems: British Columbia, Alberta, Saskatchewan, Quebec and Newfoundland. As a general rule, these systems will measure the level of performance achieved by the school district and increase the overall effectiveness of the school systems. This information will be used for policy planning and decision-making, to improve student programs and learning.

e. CMEC School Achievement Indicators Program

The Council of Ministers of Education, Canada, has recently established, as a top priority, the development of a School Achievement Indicators Program, to provide a Canadian information base that will enable provincial and territorial ministries and departments of education to assess the performance of their education programs in comparison with Canada-wide standards.

The objectives of the program are:

- to release an annual report to the Canadian public showing the results achieved within each province and territory relative to specific education indicators
- to enable each ministry or department to evaluate student achievement and to identify priorities in education

- to provide information that will assist each ministry or department in ensuring a high quality education for young Canadians, preparing them to become responsible citizens and contributing members of society.

Canadian provinces have responded to the call for quality in education by developing a means to obtain key information about the functioning of the educational system and to provide teachers, schools, and districts with results that can be used to improve education through increased monitoring and evaluation. This comes through the increasing realization that the goals and objectives of education can be identified and the methods can be monitored to identify attainment of these goals. Increasing concern with accountability underlines the need to align education evaluation with reform strategies to achieve the demanding goal of quality in education, to prepare our citizens to meet the changing demands of the 21st century.

2. TRAINING AND PROFESSIONAL SUPPORT FOR TEACHERS

In all provinces, teacher preparation for elementary and secondary levels is done by faculties of education within universities. The most common teacher preparation program in all Canadian provinces, except Ontario, is a four-year B.Ed. degree program that includes a minimum of seven to ten full courses in basic professional teacher education. The practicum component of these teacher preparation programs ranges from 12 to 18 weeks. B.C. currently has a five-year B.Ed. degree program and other provinces are considering a five-year B.Ed. program, e.g., Alberta's University of Lethbridge.

In Nova Scotia, two universities offer a two year sequential B.Ed. program and the Nova Scotia Teachers College which is the last independent teachers college in Canada, offers both a three-year diploma program and a four-year bachelor of education program.

The next most common teacher preparation program is the after degree teacher preparation program for holders of approved bachelor's degrees. This is an eight-month program in a few provinces, but is considerably longer in other provinces, ranging from one-and-one-half years in Alberta to two years in Saskatchewan. Also, some universities offer concurrent programs such as the combined five-year B.A./B.Ed. or B.Sc./B.Ed. degree program. These programs include seven to ten full courses in pedagogy.

Several faculties of education across Canada have recently announced measures to improve the quality of the training in mathematics and science in recognition of the increasingly technical nature of Canada's businesses and industries and the need to better prepare students for the technical demands.

In recognition of the need to encourage female students to consider non-traditional careers such as engineering or trades, many teacher education institutions either offer electives dealing with women's issues or have integrated such subjects as sex-role stereotyping and the changing role of women into the regular course material for student teachers.

a. Innovative Programs

The need for diversity of representation from different social and cultural groups in the teaching workforce has resulted in the introduction of several innovative pre-service programs. Brandon University in Manitoba runs the Brandon University Northern Teacher Education Program, a community-based program which currently operates in 19 towns in the vast north, offering teacher training to northern residents, including many women and many aboriginal, with family and community commitments for whom the traditional campus-based program is not feasible. A new Master's of Education has recently been implemented, making extensive use of distance education techniques and technologies, including teleconferencing, to focus on the specific interests and needs of teachers in rural and northern schools. Innovations such as alternative delivery routes, computer-managed programs, and centres of excellence have also been undertaken.

The province of Saskatchewan funds two teacher education programs designed to meet the needs of particular target groups. The Saskatchewan Urban Native Teacher Education Program (SUNTEP) has been designed for Métis and Non-Status Indian students. This program is offered through a cooperative arrangement with the Gabriel Dumont Institute of Native Studies and Applied Research, and the Universities of Regina and Saskatchewan. The Northern Teacher Education Program (NORTEP) has been designed specifically for northerners in Saskatchewan. Over 90% of the students in the program are of aboriginal ancestry. This program is offered through a cooperative arrangement with the Northern Lights School Division, and the Universities of Regina and Saskatchewan. In addition to regular teacher training, students pursue cross-cultural studies, including history and culture of aboriginal peoples. Both programs produce competent, dedicated, caring, hard-working teachers who possess an understanding of the needs of Indian and Metis students. SUNTEP and NORTEP graduates make a significant difference by providing positive role models for students. These programs are also a reflection of current measures to provide Indian and Metis peoples with more control and participation in the education of their children.

Yukon College, through an affiliation with the University of Regina is now offering a similar Yukon Native Teacher Education Training Program, which operates on a trimester system and allows students to spend non-class time in their home community school working with a teacher.

The Northwest Territories has developed several innovative teacher education programs since 1968, to respond to the cultural and linguistic needs of their largely aboriginal population and taking into account the vast distances and sparse population involved. The Western Arctic Teacher Education Program began as a one year pilot program, a collaboration between the University of Alberta Faculty of Education and the Department of Indian and Northern Affairs, and was open to students who had completed grade 11, although aboriginal ancestry or fluency in an aboriginal language was not required. In 1970, the Northwest Territories Department of Education became responsible for the program, and revised it as a two year program. In 1973, the University of Alberta ceased involvement and the program was further revised, to select candidates who were fluent in English and a northern aboriginal language, and had grade 10 or equivalent, or had worked successfully as a classroom assistant. Upon successful completion of the two years done in separate semesters of course work, internship and project work, graduates receive an NWT Teaching Certificate.

The Western Arctic Teacher Education Program was extended to the Eastern Arctic in 1978, and the Eastern Arctic Teacher Education Program and McGill University developed a community based teaching program, with classroom assistant training courses offered in the field or on campus in Iqaluit. The two year program has three emphases: to prepare teachers to teach in the Inuktitut language, to integrate classroom assistant and teacher training, and to offer field based programs. Graduates receive an NWT Teaching Certificate and a McGill Certificate in Native and Northern Education, enabling them to pursue further academic and professional education. The program provides students with classroom management skills, knowledge of subject matter, and knowledge of child development, human behaviour and learning.

An alternate program in the Northwest Territories, the Kw'atindee Bino Community Teacher Education Program, has developed as an expansion of the current Western Arctic Teacher Education Program, with several distinguishing characteristics. It is entirely field-based, designed to be delivered in communities where teaching and learning centres are located. Divisional boards of education will be able to adapt the program to meet the teacher training needs and objectives of specific cultural regions in the Western Arctic. To help teachers cope with the problems students bring to school, the program provides teachers with counselling skills, and assists them in developing partnerships with parents and community. The program emphasizes the importance of cultural learning strategies and aboriginal languages. Student teachers are taught on the job, in direct contact with classroom realities, where student teacher teams of three students each are assigned to regular primary classrooms, receiving support from the program director, an instructor and two consultants from the Teaching and Learning Centre. This program, which will be piloted in the fall, 1990, is organized into three sections: Culture and Learning, Community and School Partnerships, and Curriculum and Children. The program is being discussed with the Universities of Alberta, Lethbridge and Saskatchewan so that it may be recognized and accredited at southern universities. This program was recognized by the Canadian Commission for Unesco as a project worthy of recognition in Unesco's Decade for Cultural Development, and will be submitted to Unesco's sub-committee on Education in Paris, France, for further study as a world model for the education of teachers.

b. Supply and Demand

A recent report done by the Canadian Teachers' Federation (CTF) has predicted that Canada will need 30,000 or more new elementary and secondary teachers by the year 2001. Projected increasing enrolments, trend toward decreasing pupil-teacher ratios², Kindergarten expansion, the demographic trend toward an older teacher population, the possibility of their early retirement, and, according to some sources, the rise in immigration are all influencing factors. It has been suggested that teacher retirements alone will equal the present number of teacher education graduates by the mid-1990s. The teacher shortage is expected to be most acute in British Columbia, Alberta, Ontario and the Yukon. Strong regional, intra-regional, division level and separate/public system variations complicate the pattern dramatically. Some boards continue to experience decline or remain constant in enrolment and teaching staff,

²Not all ministries and departments of education accept all the premises upon which the CTF's report is based. Further, "a trend toward decreasing pupil-teacher ratios" will be determined by the money available.

overall, or at the secondary school level, while other boards are faced with hiring hundreds of new teachers each year for the foreseeable future.

To cope with what some are calling "a teacher shortage in its infancy," many boards are actively recruiting teachers, often in other provinces and occasionally abroad. In addition, it is hoped to attract former teachers back into the system and many boards are also examining options to make their teaching positions more attractive, offering subsidized housing, travel costs, a fully-paid benefit package, etc.

The University of Calgary has developed a compressed 14 month after-degree program that retains most of the essential pedagogical components, e.g., practicum, curriculum methods, yet allows students to complete their professional teacher preparation component in one calendar year, rather than the one-and-one-half to two years of all/winter sessions. Other solutions to the shortage problem are being developed in Alberta. Some examples:

- greater regionalization of teacher education programs to regional colleges such as Grande Prairie, Medicine Hat, Red Deer;
- faculties of education being more flexible in applying admission standards to immigrant persons who have some teaching qualifications and experience in another country but who do not possess a B.Ed. degree or equivalent;
- school boards developing incentive programs to attract and retain teachers;
- school boards recruiting earlier in the year and more actively;
- changing retirement legislation to allow retired teachers to teacher more substitute or part-time days during the year.

The shortage in urban centres of Ontario is particularly acute. A creative response was developed in 1989 by the Dufferin-Peel Roman Catholic Separate School Board which initiated a teacher "apprenticeship" program: 58 qualified applicants who were not admitted to the University of Toronto's Faculty of Education due to lack of space were given a four-week "crash" course before being placed in the classroom under a Ministry of Education Letter of Permission. Apprentices work with an experienced teacher and receive three and one-half days of in-service training each month, while earning two-thirds the salary of a regular teacher. Successful completion of the year guarantees admission to the University of Toronto for the following September.

c. Measures to Support and Retain Teachers

The high turnover rate and a difficulty in recruiting teachers in some rural and remote communities has led the B.C. government to initiate "Access for All," a program to provide funding to initiate and operate teacher education in these remote areas. The program, which will be offered at the regional community colleges, in conjunction with the faculties of education at the universities, is designed to encourage graduates to remain in these areas. A forgivable student loan program is another incentive to encourage new graduates to work in more isolated areas: the loan may be

completely repaid by service in a qualifying school district, at a rate of 10% of the loan per year of service.

The Northwest Territories has begun to examine measures to attract teachers to the North, to encourage experienced teachers to continue, to increase the number of northern Indian and Inuit teachers and to increase the effectiveness of teachers. In the 1989-90 school year, 25% of teachers did not return, while in half of the smaller communities the turnover is 33% or greater, with one quarter of these communities having a turnover rate of 50%. The Western Arctic Teacher Education Program is now taught in two streams, one field-based and the other campus-based, while the Eastern Program will be adjusted to prepare teachers to meet the unique social and cultural needs of Northwest Territories communities.

d. Teachers' Associations

The numerous provincial teachers' associations are actively involved in many activities designed to support their members professionally and financially, to increase the role teachers play in policy and program development, to increase their ability to cope with the demands of their profession and to provide professional development. All associations are active in presenting in-service, with many emphasizing the development of leadership skills, which may be useful to those pursuing administrative courses for positions of added responsibility. All provide counselling and mediation and legal services, involvement in superannuation concerns, public information, and pre-retirement planning. In addition, they are encouraging teacher involvement at all phases of curriculum development and implementation.

e. Status of Women

A report done in 1990 for the Canadian Education Association, **Women and Men in Education: A National Survey of Gender Distribution in School Systems** found that women are not occupying the administrative positions in the schools, rather that they are concentrated in the teaching positions, leaving men to dominate the positions of Chief Executive Officer of the school board, principal and vice-principal in numbers far out of proportion to their representation in the school system. The ministries or departments of education and the teachers' associations were also surveyed to determine the current status of women, and to analyze employment equity/affirmative action policies and programs currently in existence or under development. While eight out of 12 departments of education have some employment equity policies and programs in place, the strongest commitment seemed to be Ontario, where the Minister of Education recently announced his intention to have 50% of the supervisory positions in the school systems filled by women by the year 2000. However, in only six provinces were school boards found to have such policies, although many have programs directed at women, such as on-site day care, workshops on leadership topics, secondments and preferential treatment when applying for educational leave. In recent teacher contract negotiations in Nova Scotia, it was agreed that School Boards will be asked to account for the ratio of men and women and minority representatives in administrative positions, and to initiate appropriate affirmative action policies for women and minority group teachers.

Approximately half of the teachers' associations have established employment equity/affirmative action policies and programs designed to assist their members in

attaining positions of added responsibility, such as resume writing, interview preparation, effective presentation of self, conflict management and communications.

The study also identified problems women encounter in their attempts to reach positions of added responsibility. These included: a lack of qualified female applicants, declining enrolments resulting in fewer openings at senior levels, and women's reluctance to apply, whether for lack of professional qualifications, lack of desire or confidence, or family and child-care responsibilities. However it is apparent that staff resistance, old biases against women and entrenched attitudes play a large part in keeping women out of the administrative positions in education. While men manage and administer the system, women are leaders in education, albeit in different roles: the co-ordinative, consultative positions based on specific expertise, such as consultant, co-ordinator, resource teacher and special education teacher.

3. MANAGEMENT AND TEACHER EFFECTIVENESS

In public education today, especially in large school systems, there is a trend to decentralize decision-making, giving more authority to the schools. "School Based Management" permits the local school administration, within a framework of legislation, policies and priorities determined by the central authority, to establish priorities and apply funds with minimal restrictions. Simply put, it embodies the concept that decisions should be made at the lowest possible level in organizations, as close as possible to those who will be most affected by those decisions, i.e. instructional decisions should be made by teachers, and schoolwide decisions by principals. Reasons for this include attempts to enhance the local school staff's sense of professional accountability, a desire to have schools be more responsive to local expectations and values, and an attempt to reduce the public impressions of school boards as unwieldy bureaucracies.

Following a three-year trial of school-based budgeting, the Edmonton (Alberta) Public School District proceeded with system-wide implementation of school-based management. Within the framework of priorities established by the school board, budget preparation and staff development (both teaching and support) are decentralized to the schools. Accountability is maintained through system-wide testing at prescribed intervals, in languages, mathematics, science, and social studies. Outcomes over the ten years since the program's initiation include improved staff morale, better fiscal management and increased parent and community participation. The principal has been given the opportunity to emerge as both manager and instructional leader, and the roles of the central support services have received clearer definition. In addition, new program choices for students emerged, showing improved quality (through individualization) in matching students needs and interests to educational programs. A further decision was made to decentralize district consulting services to ensure their effective and efficient deployment, leading to a clarification of the division of responsibilities between central support and schools.

This new image in governance has profound implications for the pre- and in-service training for administrators, specifically the need to integrate programs in administration, curriculum, and instruction. Leadership development, program management, organizational innovation and human resources development have all become new focal points for school administrators. One result of the trend towards school-based management has been a recognition of the increased need for professional

development opportunities for principals, particularly in the evaluation and supervision of both educational programs and personnel. In-service education is a natural method to increase the quality of educational leadership, and the suggestion has been made that more principal training be undertaken outside the university. In Saskatchewan, for instance, administrator in-service is being carried out in part by the Saskatchewan Teachers' Federation, through a program called the Administrative Leadership Development Program. Aimed at principals and vice-principals, this program focuses on selected leadership skills such as the principal's role, interpersonal communications, supervision and evaluation, motivation, administrative leadership, and decision-making. The material in these areas is organized into six 6 to 8 hour modules, and pairs of modules are presented during three two-day sessions with approximately one month between each session, allowing the participants time to practice skills and to complete assignments. Course theory is presented via short lectures scattered throughout the modules, and participants actively work with the theory through group discussion, simulations and skill practices.

In Nova Scotia, the emphasis in the past five years has been on the managerial responsibility of the principal for teacher effectiveness. To this end, school board administrators have been encouraged to participate in a province-wide Teaching Effectiveness Program, jointly sponsored by the Nova Scotia School Boards Association, the Nova Scotia Teachers Union, and the Nova Scotia Department of Education.

The Northwest Territories has embarked on a program of training and certification for NWT principals to provide them with the skills necessary to operate effective schools. (Principal certification is now required of all principals of schools having a student population of one hundred or more.) The first cycle of this principal training program was delivered at both northern and southern locations under contract with the Ontario Institute for Studies in Education. The second cycle involves two forty-hour practicum projects to be completed by individual candidates, while the third cycle, which begins in July 1990, is targeted to teachers and new principals, with increased involvement of aboriginal teachers.

4. EDUCATION AND THE COMMUNITY

As we have seen in the discussion of curriculum and evaluation, one of the generally accepted indicators of the quality of education is its flexibility and its responsiveness to the community, including the ability to adapt and renew itself constantly to meet the requirements of a rapidly changing society.

Canada's population includes the indigenous Indian and Inuit peoples, the descendants of the early European settlers and of Blacks from the Caribbean, and in recent decades, immigrants from Asia, the Caribbean, the Middle East, Latin America, Southern Europe and other regions. For example, Ontario's population today includes some 90 linguistic and ethnic groups in addition to the British, French and aboriginal peoples, while Nova Scotia, a much smaller province, can, in 1990, identify 107 national groups.

Provision of instruction in English or French throughout the period of elementary schooling has been a major issue in Canada for decades, particularly for Francophones outside Quebec, who have seen the use of French as a mother tongue gradually decline. The provision of French as a medium of school instruction, however, has been

a priority for both provincial and federal governments since the late 1960s. All provinces now make provision for French-language schools where numbers warrant, and Ontario has recently removed the limitation of numbers. In addition, Ontario strives to make French-language services more readily available, through, for example, the **Fonds de langue française** which provides funding for the development of French-language learning materials. In addition, Ontario brought in legislation guaranteeing French language sections on certain school boards, and has created two distinct French-language school boards, one in Metropolitan Toronto, the other in Ottawa.

There are three forms of second-language learning in Canadian schools. The "core" program calls for teaching the second language as a subject for twenty or forty minutes a day. The less common "extended" form of language instruction adds to the core program one or two subjects taught in the second language. The third, the increasingly popular "immersion" program which entails teaching through the medium of the second language for half or more of the school day, has spread rapidly to the point where over 3 per cent of the school enrolment in Canada is in French immersion.

Traditionally, issues related to the education of Indians have been a federal responsibility, but the federal government has begun to accord more control of aboriginal education to aboriginal peoples, which has resulted in authority for education in some cases being given to band-operated schools. In other cases, the federal government funds the provinces to provide education for aboriginal peoples. The government of Ontario, represented by the Ministry of Education, is currently involved in tripartite negotiations on self-governance in education with certain Ontario First Nations and the federal government. Several provinces and territories have developed curriculum and resource guides, and have implemented programs to help aboriginal children achieve educationally while maintaining their cultural and linguistic heritage. In most provinces, aboriginal languages are taught as credit courses in both band-operated and public schools, and there are some bilingual programs. Several universities have aboriginal teacher training programs. In Quebec, the provincial cultural policy regards Indian and Inuit peoples as autonomous nations living within Quebec, and permits total control over education if they desire it, with the result that the Cree and Kativik school boards were set up in 1978, run by trustees of the Indian and Inuit communities, respectively, with power to develop programs in their languages, cultures, and traditions.

a. Multiculturalism

Most provinces have formulated policy focusing on the general concept of multiculturalism and its implications for Canadian society. These policy documents have provided educators with a set of goals and a philosophy applicable to education. The philosophy of education of all provinces and territories recognizes the cultural diversity of Canadians and asserts the need to consider both cultural and linguistic factors in developing programs with the framework of an official bilingualism policy.

Multicultural education at the elementary and secondary levels aims to prepare students for an increasingly multicultural society, where ethnocultural and linguistic diversity are viewed as a desirable characteristic and a source of national strength, to be understood and appreciated. Education should foster the development of greater awareness and appreciation of other cultures and respect for the diversity of values,

and help students acquire the knowledge, social skills and attitudes which promote mutual understanding and cooperation.

The history of multicultural education in the provinces has been shaped by a number of factors including the shifting demography of Canada which has created an ethnocultural diversity in the schools; the federal multicultural policy, and more recently, the Multiculturalism Act and corresponding provincial acts and/or policies in many provinces giving a legal basis to multiculturalism in education; and the interest of ethnic groups in the preservation of educational system as a means to promote their own languages and cultures. The Official Languages Act, and the promotion of immersion and French- or English-as-a-Second-Language programs have also had an impact on Schools.

Curriculum implications of multiculturalism include teaching for both the cognitive and affective domains (i.e. knowledge and appreciation of Canadian ethnocultural diversity and the values, attitudes and customs of the various ethnocultural groups) and also the development and use of sensitive learning materials which reflect a more balanced perspective of the roles played by ethnic groups in the development of Canada and reflected in the present-day national reality.

Manitoba Education sponsors a variety of programs and activities, and is currently finalizing a multicultural policy. Each year during multicultural week, Manitoba Education promotes multiculturalism through activity books, programs, and conferences. It also assists in the development of Heritage Languages programs. Using the resources of Manitoba Educational Television, they promote the study of world issues through programs like **Paths of Development**, six videos on world development.

In approximately half of the provinces, heritage language instruction is provided in three types of programs, to enable students whose mother tongue is neither French, English or an aboriginal language to preserve their language. A bilingual program (in some instances a "transitional" program) sees the heritage language used as the medium of instruction for half the school day, a format most popular in the Prairie provinces with Ukrainian-English bilingual classes, usually at the primary level. Some local school boards are experiencing an increasing popularity in their programs, which are funded by the provincial government to provide, in most cases, an optional half-hour of instruction outside the regular curriculum, either after school or as part of an extended day. As of October 1989, the Heritage Language Program in Ontario is mandatory in elementary schools: a school board is required to provide heritage language classes when a request to teach a particular language is made by the parents of 25 or more qualified persons of that school board. Ontario has also recognized American Sign Language, a communication medium for the deaf, as a heritage language. Preliminary data in 1989 show that over 70 school boards offered 4618 classes in 62 heritage languages to approximately 95,000 students. The third type of heritage language instruction consists of courses offered by the ethnic communities, often with support of the provincial or local school authorities.

Canadian educators have realized the importance of an understanding and appreciation of all ethnic and cultural groups, and are actively assisting all students to develop and retain an acquaintance with both the historical roots and the changing demography of the community, as an essential philosophy of a quality education.

b. Environmental Education

The decentralized structure for education decision-making means that legally no single policy for environmental education can be said to exist in Canada. However, all authorities support it and recognize that environmental education should form an integral part of a quality education at all levels.

A major influence on science education in Canada was a nationwide study conducted from 1980 to 1983 by the Science Council of Canada, which stressed the need for students and citizens generally to understand the interaction of science, technology and society: science should be taught at all levels of school with an emphasis and focus on the relationships among science, technology, society, and environment in order to increase the scientific literacy of all citizens.

The Second International Association for the Evaluation of Educational Achievement (IEA) Science Study provided a comprehensive Canadian curriculum review. Two volumes provide descriptive information about Canadian curriculum policy, science classroom practice, and student achievement.

Developments in several provinces have lent an impetus to environmental education: the formation of task forces and advisory councils, the founding of environmental associations, the preparation of position papers and curriculum guidelines and materials, the appointment of consultants, conferences and interdepartmental committees. In Canadian schools, concern about the environment has become a major issue in science studies, social studies and elsewhere in the curriculum as appropriate. Conservation of resources, pollution, and air and water quality are important societal issues that lend themselves to classroom discussions of practical applications of scientific knowledge and their implications or effects.

In 1986, the Canadian Council of Resource and Environmental Ministers established a National Task Force on Environment and Economy, to initiate discussions among environment ministers, industry executives, environmental organizations, and the academic community, on the integration of environmental and economic policies. Following this, a National Round Table on the Environment and the Economy was established, as were several provincial round tables, to stimulate initiatives to elaborate and explain sustainable development concepts to the public. The round tables recommended that environmental education be upgraded, with particular attention to the elementary and junior high levels.

Subsequent recent developments at the provincial level also accord priority to this area, resulting in a major revision of the science curricula being carried out by most ministries/departments of education, with two focal points: a move away from a traditional disciplinary orientation toward an integrated approach to science, and a focus on the social context of science and technology.

Opportunities for environmental education exist in all provinces and at all grade levels. Not considered to be a separate subject, it is integrated into other subject areas, particularly science and social studies, and in some jurisdictions additional subjects can be involved, such as physical education, health, language arts, arts, and outdoor education. In the Northwest Territories, many schools offer programs in which students go into the forest for one or two weeks, living on the land and practising

survival skills, helping students to maintain the traditional aboriginal way of life in which respect for the environment plays an important role.

Several provinces recommend a teaching approach that involves students in conducting inquiries into environmental issues. In Ontario, for example, students at the intermediate and senior levels learn to recognize an issue, design an investigative strategy, find and evaluate relevant information, formulate conclusions and communicate the results. Another approach to instruction is to select a theme that enables a number of environmental concerns to be studied in an integrated fashion. Saskatchewan is currently developing an "Agriculture in the Classroom" project using agriculture as a focus of concern across several areas of study. The province is producing a series of video tapes with accompanying material to support the curriculum. These kits make up the Resource Series and each deals with one resource, such as the preservation of woodlands, for incorporation into mainstream courses. Alberta Education has supported a "Classroom Agriculture Program" for the past couple of years, in cooperation with Alberta Agriculture, and recently approved a junior high program, "Environmental and Outdoor Education". Newfoundland currently offers an environmental science course in senior high school. This course is being revised to reflect environmental issues provincially, nationally and globally. An additional course, Science, Technology and Society is currently being developed. These approaches and methods endeavour to foster the development of critical thinking skills and positive attitudes towards the use of natural resources. Attention is generally directed to local issues so that students acquire a sense of responsibility for them and an awareness of the scope and opportunity for constructive action.

Generally, students are expected to acquire a basic knowledge of significant environmental issues, gain insights into the interdependence of elements, learn about ecosystems, and begin to understand the values and beliefs that underlie discussion of resource use. Formation of positive attitudes constitutes another important goal: it seeks to inculcate a commitment to the careful use of natural resources and to the preservation and improvement of the physical environment.

As a relative newcomer to the school curriculum, gaining admittance to programs of pre-service teacher education for environmental studies has been found to be a slow process. Most teacher training in this area occurs through in-service, provided by education departments and ministries, teachers' associations, school boards, other government agencies, universities, and environmental groups. Teachers also have access to a wide variety of resources and support groups outside the school, including advisory committees, specialized centres, the media, museums, science centres, etc. One of the most active centres is the Nova Scotia Museum, which produces and distributes school resource kits, conducts classes, undertakes studies and publishes reports, and issues a wide variety of publications designed to inform the public about environmental matters.

A highly innovative project was initiated in 1988 by the National Film Board of Canada. Entitled **Perspectives in Science**, the project, which is intended for students in grades 7 to 10, breaks new ground in educational technology with a pilot series of "interactive" videos, exploring the topics of toxic waste, water, and biotechnology. The series encourages students to ask questions, search out information, evaluate it for bias and authenticity, draw conclusions, take a value position, and engage in social action.

Since there are likely to be some inconsistencies in the information citizens receive from these diverse sources, a sound environmental education includes teaching students to analyze information carefully and examine it critically, while attempting to address grave social questions that inevitably stem from the application of this knowledge.

c. Accessibility for Disabled Students

During the last decade, significant strides have been made in providing equal opportunities for disabled people. It is generally recognized that society benefits from the integration of people with disabilities into all aspects of community living. The 1983 Commonwealth Secretariat document, **Policies and Programmes for Disabled People in the Commonwealth - Report of a Survey** noted that education is one of the most effective avenues for disabled people to realize their full potential and become fully participating and contributing members of society.

In Canada, the provinces and territories have all provided programs to respond to specific needs of disabled students. The Secretary of State of Canada is the Minister Responsible for the Status of Disabled Persons and a special secretariat within the Department of the Secretary of State of Canada promotes independence and equality for disabled persons and their full integration into Canadian society. In 1984, three centres of specialization were established at universities across Canada with the aim of removing barriers which face disabled students seeking education. These centres, together with other resource centres, form a network capable of providing expertise, experience and qualified human resources in assisting disabled students to gain further education and train for productive careers. Communication with resource centres in England, Australia and New Zealand shows the promise of extending the network of expertise to other Commonwealth countries to provide for a sharing of all resources.

5. OUT-OF-SCHOOL EDUCATION

a. Adult Literacy

To discuss improvements in the quality of basic "out of school" education, we will examine one area which has steadily increased in importance in the past few years, that of Adult Literacy.

Given the diversity of the educational systems in Canada's ten provinces and two territories, where often more than one ministry is involved in literacy, it is not easy to assemble meaningful data on literacy statistics and programs. Estimates of the number of illiterate people can be derived from federal census data collected in 1986: 659,745 people, or 3.4% of the population 15 years and older, have attained under five years of schooling and can be considered **basically illiterate**. A study done by the Southam newspaper chain in 1987 showed over 1.5 million adult "basic illiterates," for a rate of 8% of the population 18 years and older. Census data show that 3,393,725 people, 17.3% of the population 15 years and over, have attained fewer than nine years of schooling, and fall into the **functionally illiterate** category (including basically illiterate adults). Provincial rates of people attaining less than grade nine vary from 10% to 25%. The Southam survey shows that over 4.5 million people, or 24% of the adult population are either basic or functional illiterates. (Of those, almost

half were over the age of 50.) The results of the recent Statistics Canada National Literacy Survey, released in June 1990, support much of the older data.

Informed conjecture about the numbers involved in literacy programs puts **generous and rough** estimates of 1989-1990 enrolments in all levels at 100,000: this would mean that only 2% of the 4.5 million considered functionally illiterate in the Southam survey are participating in programs. In Saskatchewan, however, approximately 10% of those considered functionally illiterate are participating in literacy programs. And, given the diversity of programs, personal schedules, and individualized goals no meaningful data are available on the successful completion of literacy programs.

Several obstacles to greater participation rates have been identified: the inadequacy of programs in comparison to need, insufficient numbers and quality of literacy personnel, lack of teaching material, students' lack of time or motivation, and students' child-care responsibilities, transportation, and inability to stop working to attend programs. Several provinces report insufficient programs to meet the demand, and a historical lack of program funding, and many report that people do not identify themselves as "illiterate," sometimes through embarrassment.

Literacy planning and programming in Canada includes efforts by many organizations. The federal Department of Labour originated some programs in the 1960s, and voluntary and community organizations, schools districts and community colleges became increasingly active from the early 1970s. Initiatives are typically at a local level, with some literacy organizations outside the educational system, sometimes through libraries or community centres. In various organizational forms, a variety of teaching practices, learning materials and program structures were developed.

In 1988, the federal Department of the Secretary of State allocated \$110 million, to be spread over five years, to the National Literacy Program, acting as a catalyst to support and stimulate activity by other partners, to develop learning materials, innovative demonstration projects, co-ordination and information sharing, and research. Several of the provinces announced matching funding for various projects. In Nova Scotia, for example, joint funding was announced for four major projects co-ordinated through the Nova Scotia Community College System, with the federal government contributing \$185,000 and the province \$156,500. The projects include the development of resource centres in each of the six community college regions, a tutor training program, a newsletter pilot project, and research into the literacy needs of Francophone Nova Scotians. A similar arrangement in Newfoundland sees each government contributing \$250,000 to establish literacy outreach centres, to develop tutor training programs and curriculum, and to research the effects of illiteracy. Although the federal government can encourage and support literacy activity, it is the provinces and territories who have the constitutional responsibility for education, and the bulk of planning and delivery of programs takes place at the local level, through the provision of funding, through task forces, advisory councils, and representatives of business and other sectors, including labour, aboriginal peoples, women's centres, immigrant service organizations, libraries and other ministries.

In March 1990, Ontario announced over \$2 million in funding for workplace and community literacy projects throughout the province as follows: incentive grants to help a variety of organizations to develop expertise in providing effective literacy, numeracy and other basic skills training for employees; project grants for International Literacy Year; "Access Fund" grants to improve services for people with disabilities by

assisting in the development or purchase of learning and resource materials that can be used by persons with disabilities, the purchase of special equipment, and the improvement of access to facilities where literacy training is offered.

Given the diversity of our systems, Canada must encourage and support diverse efforts: different programs work for different learners. Settings range from traditional classroom instruction, small group work and one-to-one tutoring, with programs run in schools, community settings, workplaces, etc. Curriculum and teaching methods are diverse and responsive to local needs, with community consultation and participation. It is felt that small scale programs rooted in the learners' daily environment can most easily adapt to their needs. Targeted groups include, among others, aboriginal peoples, women, immigrants, residents of isolated communities, mentally, physically and developmentally handicapped people, parents, youth, prison inmates and the economically disadvantaged.

Funding for literacy programs comes from both government and non-government sources, including some philanthropies, and business, labour and community organizations. Again the diversity is so great that the funding from all sources, including the private sector, cannot be quantified.

There is a great variety of course organization in Canada: part-time, full-time, day or evening. Some are taught by professional teachers, others by volunteers, classes are held in schools or less formal settings, and teaching hours vary from two to thirty per week. Some programs allow students to enter and leave at any time; others have specific terms. Many rely on one-to-one tutoring, usually with volunteers, while others operate on a "drop-in" basis, and some have formal classes.

Modern communications media play an increasing role in developing, supporting and consolidating literacy. Audio and video tape are used extensively, and there is some limited broadcast literacy programming. In the north, radio is used in "read along with the radio" programming, and distance education is being explored for tutor training in remote communities. One potential being developed is two way communications, to link learners and teachers in different communities. British Columbia's Open Learning Agency has a proposal to link aboriginal learning centres through an electronic blackboard system that transmits visual images, sound and two-way communication. Computer assisted instructional and/or learning management systems are in use in Canada, including PALS, Pathfinder, and PLATO, as well as locally written programs for computer assisted instruction.

A constant challenge is ensuring good Canadian content, adult-oriented materials, particularly in French and in software. There are widespread efforts to develop and distribute learner-produced materials, designed for their readability and relevance to other adult learners, and some programs have established publishing outlets. These include the New Start Reading Series from East End Literacy Press in Toronto, and *Voices* magazine from the Lower Mainland Society for Literacy and Employment in Surrey, British Columbia.

Canada recognizes the ever present link between economic advantage and literacy or education. Average income of adults with fewer than nine years of schooling is less than three-quarters that of the overall average. Labour force participation rates are consistently lower, and unemployment rates consistently higher, and the employment situation of the undereducated is worsening, relative to other groups. While much

effort has gone into improving the literacy rates, it remains clear that there remains much to be done to help Canada attain the educational requirements of an increasingly knowledge-based economic system.

b. Distance Education

Given Canada's vast geography (its land and freshwater areas extend over 9,970,610 square kilometres) and relatively sparse population (approximately 26,000,000 people), it is evident that efforts to improve the quality of basic education should take into account the various modes of delivery of distance education, which is a necessity for Canadians living in remote or rural areas at some distance from the major educational institutions.

While some may regard Distance Education as a recent development, it has a long history in Canada, dating back to the availability of a universal postal service. Queen's University in Kingston, Ontario, marked a century of correspondence and distance learning in 1989, and recalls the days when the Royal Canadian Mounted Police delivered lessons to areas not served by the post office.

Recent years have seen a tremendous growth in the use of modern communications technology to improve the quality and increase the quantity of courses offered through distance education. Teleconferencing permits the lecturer to communicate by telephone with students in one or more remote areas, using an audio conference convenor set which allows two-way conversation between instructor and students. Traditional restrictions on the type of course available are now giving way to a wider variety: the University of British Columbia's Access Bachelor of Science in Nursing Degree now enables registered nurses to complete degrees in nursing entirely by distance. Other innovative uses of communication technology include the electronic blackboard system as used by the British Columbia Open Learning Agency, and the variety of software for computer-assisted instruction.

Since 1923, the Alberta Correspondence School has served students when regular classroom instruction does not meet their educational needs. The Alberta Correspondence School also is Alberta Education's distance learning centre. Alberta's ACCESS Network, in conjunction with the Language Services Branch of Alberta Education, has developed a self-instructional course teaching Beginning French. It consists of thirty-six interactive television programs, nineteen audio-conferences, audio cassettes and print. More interactive television programs are anticipated to provide rural and isolated students with access to quality education. To further assist with equity in education, Alberta has completed two experimental projects to redesign the traditional correspondence courses, using facsimile machines, computers and conference calls to link teachers with students in small, rural high schools, thus providing them with the same range of programs as the larger urban centres. Previously the average small high school offered 32 courses a year, while urban schools averaged 121. The new distance education project has boosted the average to 104 courses, including industrial arts and home economics. The successful completion rate has also climbed from 35% to over 85% of students who start the course, due partly to the use of the facsimile machines, which permit a much more rapid return of assignments than had previously been the case with regular mail. Previously, the delays in feedback and lack of other student supports were cited as major reasons why students dropped out.

Saskatchewan has a similar innovative program: the Saskatchewan Communications Network, established four years ago, expects to spend about \$2 million this year to produce 10 per cent of the educational programming it will offer. The province has invested \$7 million in the project and the federal government has contributed \$18 million to the project, which will be able to offer one-way video and two-way audio service to 48 rural communities, with signals transmitted via the Anik D satellite. A pilot project delivers a French as a second language course to students in a town too small to offer one, using a combination of satellite television, telephone lines for pronunciation and vocabulary, and fax machines for instantaneous marking.

In Quebec, the Ministry of Education's correspondence courses are making extensive use of computer technology to assist in the provision of courses. A mainframe permits many administrative and academic applications, including budgeting and inventory of materials, registration, individual progress reports, automatic correcting of assignments, and comparison of the data base of examination marks. Micro-computers permit research, data analysis, and production of reports, but their greatest use is in desk-top publishing to create course materials. The Quebec Ministry of Education has also established some distance courses in collaboration with other partners in various regions to offer joint programs: one model sees the distance component of a course delivered by the Quebec Ministry, combined with 45 hours of a technical class offered in a classroom by a local school board, and a work placement supervised by the school board. Courses taught include refresher courses for nursing assistants, water treatment workers, rural volunteer firefighter training, and silviculture.

Distance education is a normal part of the Ontario Ministry of Education's operations. With 800 teachers and 90,000 students, the ministry's Independent Learning Centre (ILC) is the largest institution in Canada devoted to distance education. ILC offers elementary, secondary and adult basic education programs. Ninety-five percent of ILC's students are enrolled in secondary school credit courses.

The Newfoundland and Labrador Distance Education project provides specialized courses to students in small schools. Without Distance Education, many of the students currently enrolled in Advanced Mathematics courses would simply be unable to take advantage of these learning opportunities. Student enrolments are so small that many small schools cannot provide such courses as Advanced Mathematics, Chemistry or Physics. In other instances specialist teachers are unavailable to teach specialized courses that are taken for granted in larger centres.

The Distance Education Project uses a variety of technologies. Computer-based "electronic blackboards" and audio teleconferencing kits allow students in a number of different locations to simultaneously hear their instructor or other "distance classmates" and to also see data and visual images on the TV monitor of the telewriter or "electronic blackboard". During the 1989-90 school year, students in 20 small or remote schools had the opportunity to take advanced mathematics high school courses by distance education. A new mathematics course and ten new sites will be added in the fall of 1990. Learning resources will also be developed for new courses for the 1991-92 school year.

With the launch of the European Space Agency's Olympus satellite in July 1989, Canadian educators have a share in the 3,500 hours allocated to educational use. The federal Department of Communications, one of the original partners, has invested \$120 million into research and development and will co-ordinate the Canadian input. An

informal users group, consisting of TVOntario, the Ontario Teachers' Federation project "Education for a Global Perspective," teachers, consultants, Peel Board of Education's Chimo Network and the Ontario Ministry of Education's Independent Learning Centre, has developed a number of pilot projects. Olympus will transmit many different types of signals: a direct broadcast television service, a high density data stream and audio channels, all of which will encourage students to be active participants and to increase their own responsibility within the learning process. Students and teachers will be able to reduce the barriers of distance and time by communicating through interactive video and audio channels while, at the same time, analogue signals will carry computer-originated messages. Students and teachers are using the latest technology to break down cultural and geographic barriers, through a system of distance education which can deliver services accurately, efficiently and conveniently in rural and isolated communities.

D. INTERNATIONAL COOPERATION

1. INTERNATIONAL TEACHER AND STUDENT EXCHANGE

The Canadian Education Association coordinates the international exchange of teachers between all provinces of Canada and the United States, the United Kingdom and West Germany. The exchanges provide an opportunity for the teacher to improve his or her professional ability and competence and to gain a better understanding of other countries, by a direct exchange of jobs for one year. Teacher exchange also has a twofold advantage: the benefits to the pupils and the school system brought by the fresh and different approaches of a teacher from another country, and the added stimulus injected when the teacher returns with new ideas and a revitalized outlook. For the academic year 1989-1990, matchings were secured for 92 teachers, with 76 Canadians going to the United Kingdom, 15 to the United States and 1 to the Federal Republic of Germany.

There are also significant provincial programs. For example, the Ontario Ministry of Education has, since the early 60s, administered a number of international activities. A major segment of these activities is that of student and educator exchange and travel study, in support of language learning, cultural awareness, personal and professional development. One year, post-to-post teacher exchange programs administered by Ontario exist with the following countries: Australia (all states and territories, except Tasmania), Bermuda, Federal Republic of Germany, The Netherlands, New Zealand, Switzerland, United Kingdom, United States of America. Ontario also sponsors one to four week professional development seminars for Ontario teachers in other jurisdictions, mainly in Western, Northern, Central and Eastern Europe. In 1990-91, twelve such seminars are planned. In cooperation with the Department of External Affairs, the Ontario Ministry of Education runs two two-week Canadian Studies Seminars per year in Ontario for some 80 European teachers. Finally, the Ontario Ministry of Education promotes international exchanges for secondary school students throughout Ontario as an enriching educational experience focusing on language learning, cultural enrichment and personal growth. Some 500 Ontario secondary students are twinned with 500 students from 8 jurisdictions in Western Europe, each student spending three months attending school full-time in the other jurisdiction on a reciprocal/sequential basis.

In 1987, the British Columbia government created the Pacific Rim Education Initiatives Program, which aims to broaden students' perspective with regard to the nations of Asia and the Pacific Rim, to focus on their cultures, histories, geography and economies. The program provides a wide range of educational opportunities, from student and teacher travel to enhanced language programs. The program received \$11 million through the ministry of education in its first three years of operation. The program provides support for teachers to gain first-hand experience in Pacific Rim countries. So far, 20 British Columbia teachers have chosen to teach in Asia Pacific countries for periods of one and two years. Financial help is also available to support organized study tours by B.C. elementary and secondary school teachers and for groups of British Columbia secondary school students to help cover the costs of two- and three-week visits to Asia Pacific countries. The provincial government is, as well, actively recruiting highly qualified, fee-paying Asian students who are already proficient in English to attend school in British Columbia and contribute their perspective in the province's classrooms. Other initiatives include incorporating Asia Pacific studies into the core curriculum, developing language programs in Mandarin and Japanese, and school twinnings. The program is working so well that it is being used as a model for Pacific Rim curriculum and language development by other Canadian provinces and by international educational organizations.

Another noteworthy recent accomplishment to promote international unity and understanding is the agreement reached by the Council of Ministers of Education, Canada and the Secretary of State for External Affairs on Canada's accession to the Unesco Convention on the Recognition of Studies, Diplomas and Degrees. The national body for information on credential recognition will collate information for universities, colleges, professional associations and certifying bodies to help them establish equivalencies for foreign diplomas and degrees, thus making it easier for professionals from another country to practise their profession in Canada. This body will also make Canadian degrees and diplomas better known and recognized in other countries.

2. INTERNATIONAL EDUCATION IN THE SCHOOLS

Canada supports the principles in the recommendation adopted in 1974 by the General Conference of Unesco calling for the inclusion of international education at all levels of education. International education is the term adopted by Unesco to include education for international understanding, cooperation and peace, and education relating to human rights and fundamental freedoms. In fact, Canada had taken up the challenge of incorporating international and human rights education into educational policy and practice long before the recommendation was made, because of our officially bilingual and culturally diverse society. All Canadian provinces had adopted legislation reinforcing the human rights guaranteed to citizens and had established commissions with power to investigate complaints about violations of these rights. In 1977, the federal government passed the Canadian Human Rights Act, and in 1982 made constitutional amendments to adopt a Charter of Rights and Freedoms. With this promulgation of new legal and social instruments, education policy was developed and carried out in an era characterized by a renewed emphasis on individual rights and freedoms. Moreover, major public policies had been adopted to foster better intercultural understanding which helped to stimulate educational programs related to these objectives. Three sets of policies exerted a direct impact on education: policy on

official languages, multiculturalism initiatives, and attention to the needs of girls and women, aboriginal peoples, and racial or cultural minorities.

A common theme has emerged from the provinces in terms of the need for education on international and human rights issues. It is generally felt that the essentials are international understanding, awareness of global concerns, respect for the culture of others, and concern for human rights. All jurisdictions are calling on the education community to open up to the increasingly diverse and pluralistic society surrounding it, and to widen the scope of curriculum, giving it a global perspective and encouraging both teachers and students to expand their horizons. Many provinces and territories report newly-revised policies related to social diversity, multiculturalism and aboriginal communities, and international issues, and many of these provincial policies are reflected in the school curriculum. Social studies is generally the vehicle for international or multicultural education, in the secondary schools and sometimes at the elementary level.

The goals and curriculum of the Newfoundland and Labrador social studies courses are representative of the overall educational goals and desired practice in the other provinces and territories, that is:

1. Person-centred, helping learners find meaning in life situations and human relations, as they develop in ways of knowing, thinking, feeling, valuing, and intelligent behaviour.
2. Citizen-centred, helping the learner understand the society in which he or she lives, develop the values and skill essential for self-actualization and effective citizenship, and applying this knowledge in daily living.

The K-12 curriculum incorporates and places major emphasis on the following values as part of the regular school program:

- the desirable values of honesty, truth, justice, empathy, loyalty, dependability, cooperation, tolerance, charity, self-discipline, and work
- respect for the worth of each individual
- consideration of oneself as a person of worth
- respect for the values and beliefs of others
- appreciation of human heritage
- faith in the future
- respect for the right of the majority to prevail and the rights of the minority to be respected and protected
- reliance on reason and reflective thinking
- conviction that discussion and peaceful methods of persuasion are superior to force in making decisions
- humanitarian concern for the welfare of others

All of the above values should be promoted throughout the curriculum in the manner and with the emphasis appropriate to the nature and needs of students at the various levels.

The development of the ability to think and make decisions, and the related skills of information gathering and democratic group participation are also highlighted, and key concepts such as cooperation, tolerance, truth, justice, human rights, understanding,

multiculturalism, and appreciation of global cultures are treated. Family life, and health curriculum also deal extensively with these topics in most provinces as do religious Studies in Newfoundland and Labrador, and other provinces where such are available.

Other themes added to this listing from other provinces include:

- an acceptance of personal responsibility in society at the local, national and international levels
- esteem for the customs, cultures and beliefs of a wide variety of societal groups
- respect for the environment and a commitment to the wise use of resources
- values related to personal, ethical, and religious beliefs and the common welfare of society

All provinces and territories report that their main educational vehicle for promoting international education is the social studies program. In Alberta, for example, the Alberta Teachers' Association, working with the Canadian International Development Agency (CIDA), is the lead organization for developing a program on "Global Education". Alberta Education is a member of the Committee. In Manitoba, the K-12 social studies program develops the following themes:

- the increasing disparity between the developed and the developing world
- the interrelationships and interdependence among the world's nations
- the lack of basic human rights in many parts of the world
- the growing trend toward international organizations
- the threat of war

Human rights is specifically dealt with in grades 9, 11, and 12 social studies programs. Teachers in grades 4, 5, and 6 have piloted specific human rights themes, produced by the Canadian Human Rights Foundation. Units of grades 9, 10, and 11 discuss the United Nations, and joint projects are undertaken with agencies for international development education: Canadian Red Cross Society, Canadian Catholic Organization for Development and Peace, Save the Children Canada, Canadian University Service Overseas, Idea Centre, World Vision Canada, The Margins Project, Mennonite Central Committee, UNICEF, and United Nations Association in Canada. All these agencies do their development education work thanks to subsidies from the Canadian International Development Agency, which also produces support materials for teachers and students, including two periodic learning resource magazines, one for 8- to 11-year-old-students, and one for 12- to 15-year-olds, available free of charge to schools and to individuals.

In Nova Scotia, the Department of Education is an active member of the World Food Day Committee, helping to produce and distribute kits to the schools on the annual theme and promoting a global perspective. The Gambia Project is the result of a School based enterprise -- a student-exchange with the Gambia over several years that now involves a growing student-population. Development resource materials are available through Education Media Services of the Department of Education, and through the International Education Centre, St. Mary's University, Halifax, or through the Coady Institute for World Development, St. Francis Xavier University, Antigonish.

All provinces and territories authorize textbooks and learning materials only after reviewing them to ensure conformity with published guidelines, seeking not only to eliminate bias, but also to foster an appreciation of the cultural communities in their jurisdictions. Several reported that they publish guidelines for the production of school materials, offering suggestions to authors who want to write inclusive material reflective of cultural communities, minority groups and world issues. Some provinces sponsor teacher orientation sessions on cross-cultural education and teaching models that relate development to human rights.

E. CONCLUSION

Canadian education authorities are continuing to organize their school systems to prepare today's students to meet the challenges of tomorrow. A strengthening of the curriculum in all provinces is seeing increased emphasis placed on the skills in science and technology needed by our economy, and on preparing our students to be able to learn and to retrain or otherwise keep their options open, as the marketplace of the future will demand. Social trends have also manifested themselves in revisions of or additions to the curriculum, encompassing such clients or influences as the exceptional students (whether gifted or disabled), aboriginal peoples, multicultural groups, and concern for the environment. Greater emphasis is now being placed on indicators of educational quality, with a view measuring the level of performance of both the students and the school systems, to making the appropriate policy and program decisions to improve the quality of education for all. These curriculum reforms have necessitated some revisions to the training provided to teachers, both pre-service and in-service, to better prepare them to help Canadian students meet the challenges of the 21st century. New programs have also been developed for use in the schools: we have seen many innovative environmental education programs, a growth in Heritage Language programs, and an emphasis placed on multicultural and international education, reflective of the increasing global interdependence that is influencing education, along with the economy and so many other aspects of life today. Quality in education brings with it a concern for equity, provision of the same quality of education to all, hence the growth in distance education, assisted by the advances in communication technology, as well as the increase in adult literacy programs, as decision-makers realize that literacy is a skill which our society cannot afford to ignore. Education is vital to the economic, social, cultural, and political well-being of all Canadians: our society and the future well-being of our citizens depends on the education we can provide now as Canadian society prepares to meet the challenges of the 21st century.

APPENDIX I: STATISTICAL HIGHLIGHTS

Schools

In Canada's ten provinces and two territories, there are currently in operation approximately 15,410 public, private and federal elementary and secondary schools, approximately 12,500 elementary and 2,500 secondary.

Enrolment

In 1988-89, a total of 5,024,827 students were enrolled in Canada's public and private schools, 3,124,117 students at the elementary level and 1,900,710 at the secondary level, representing 20% of the country's total population. Approximately 4.7% or 231,142 of these students are enrolled in private schools.

After decades of continuous growth, Canada's school age population began to decline in 1971 as the last of the baby boom population reached school age. In the fifteen years that followed, the number of school-age children declined dramatically from a record high of 5,836,000 attained in 1970-71, and only in the past three years has it increased slightly. In the last three years, Canada has had a slight up-turn in population which is likely to be short-lived if present fertility and immigration rates continue.

While the attendance rate for students in the compulsory schooling group (generally ages 6 to 16) was nearly 100 per cent, an increase has been shown for ages below 6 and above 16, an increase which reflects the introduction of new programs, the increased holding power of schools and increases in the numbers of students returning to school to complete high school. Despite decreases in the population aged 4 and 5, enrolment of pupils below compulsory age has increased by 15 per cent since 1970-1971, largely as a result of expansion of pre-school programs.

Graduates

Secondary school graduation rates - a measure of the output of educational systems - have increased slowly over the past two decades: in 1971, 40 - 50 per cent of students finished high school; in 1988, graduation rates were in the 60 - 75 per cent range. The number of secondary school graduates increased from 288,200 in 1976-77 to a high of 305,900 in 1981-82, and dropped to 268,300 in 1986-87, reflecting overall enrolment patterns for secondary education. The ratio of Grade 12 enrolment to Grade 9 enrolment three years earlier - a rough proxy for the holding power of school systems - also has increased substantially over the past two decades. In 1970, it was 55%; by the mid-80s, it had reached 75%.

Educational Attainment

During the decade between the Censuses of 1976 and 1986, the median number of years of formal schooling of Canada's adult population rose from 11.3 to 12.2.

Teachers

Despite declining enrolments, the number of teachers employed in Canada's public schools has remained virtually unchanged from the record high of 240,000 recorded in 1970-71. Several factors contribute to these opposing trends. Enrolment declines are often dispersed over large geographic areas and thus have little or no impact on staffing requirements for individual schools. Also, a number of school jurisdictions faced with dramatic enrolment declines which could have resulted in staff lay-offs, opted instead (or in some cases were required) to institute new and expanded programs for students with special needs such as learning disabilities. Such action thus negated the normal effects of enrolment decline on the number of teachers employed.

The early 70s through the 80s have seen a continual aging of public school educators. Between 1972-73 and 1986-87, the average age rose from 35 to 41, reflecting generally low recruitment and high retention rates for educators, both factors associated with an extended period of enrolment decline. In 1988-89, the majority of educators were aged 40 to 49. In the early 70s, about as many educators were under 30 as were 30-49. Ten years later, fully 75% of all educators were 30-49, and only 10% were under 30. In fact, in 1988-89, more educators were over 50 than were under 30.

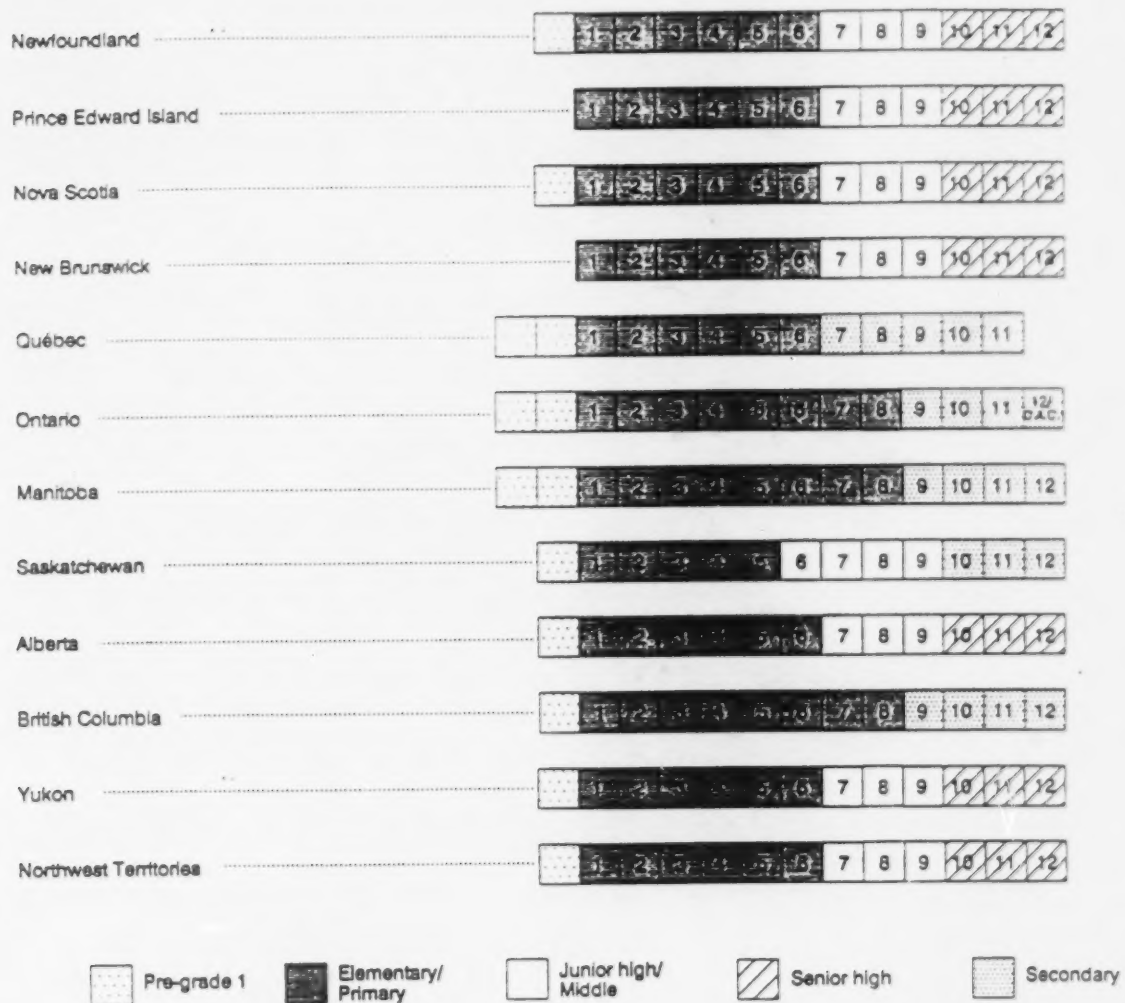
Expenditures

Total expenditures on elementary and secondary education amounted to over \$26 billion in 1988-89, an increase from the \$20 billion spent in 1984-85. Elementary and secondary education expenditures per capita rose 24% from \$818 in 1984-85 to \$1,010 in 1988-89. For Canada as a whole, total provincial and local expenditures on elementary and secondary education as a percentage of total provincial and local expenditures have decreased slightly - from 15.9% in 1984-85 to 15.6% in 1988-89. This figure includes expenditures from all sources including federal, provincial, local and private.

On average, public school education in Canada is funded between provincial grants and local taxation in roughly a ratio of 2 to 1. This pattern has been relatively stable in recent years, provincial grants declining from 64% in 1984-85 to 62% in 1988-89.

The Structure of Education in Canada

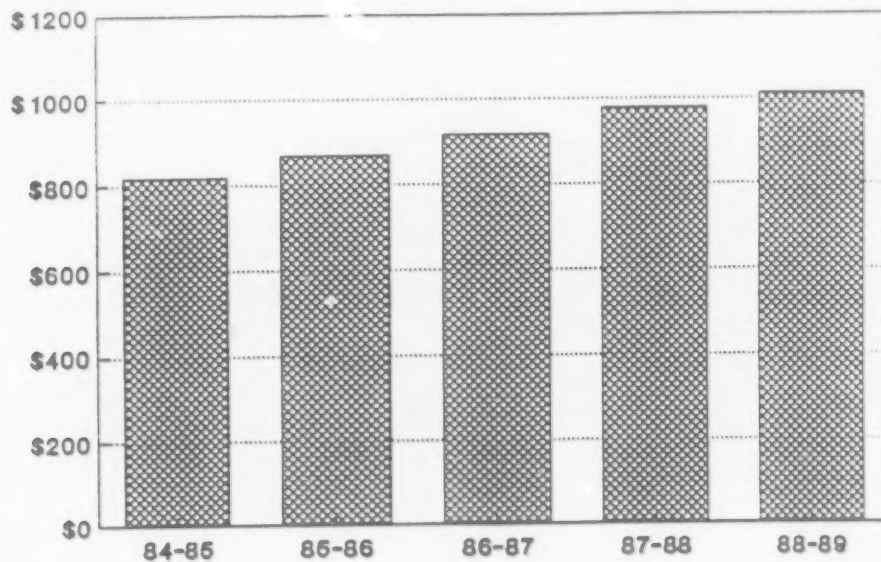
The responsibility for education in Canada rests with provincial governments. Each province has developed its own system for education, and the structure can differ considerably from province to province. The following chart illustrates these similarities and differences.



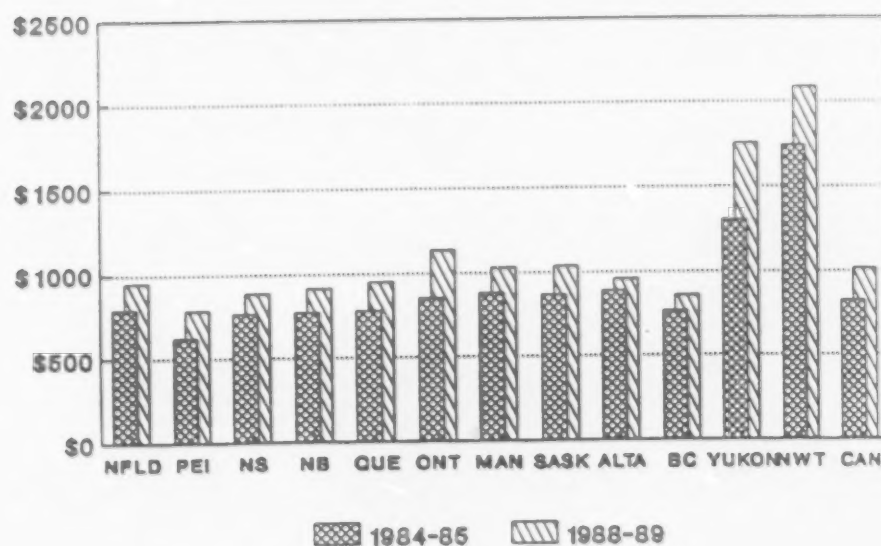
* O.A.C. = Ontario Academic Credits (primarily for students completing university entrance courses.)

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**TOTAL EXPENDITURES ON ELEMENTARY-
SECONDARY EDUCATION PER CAPITA
CANADA 1984-85 TO 1988-89**

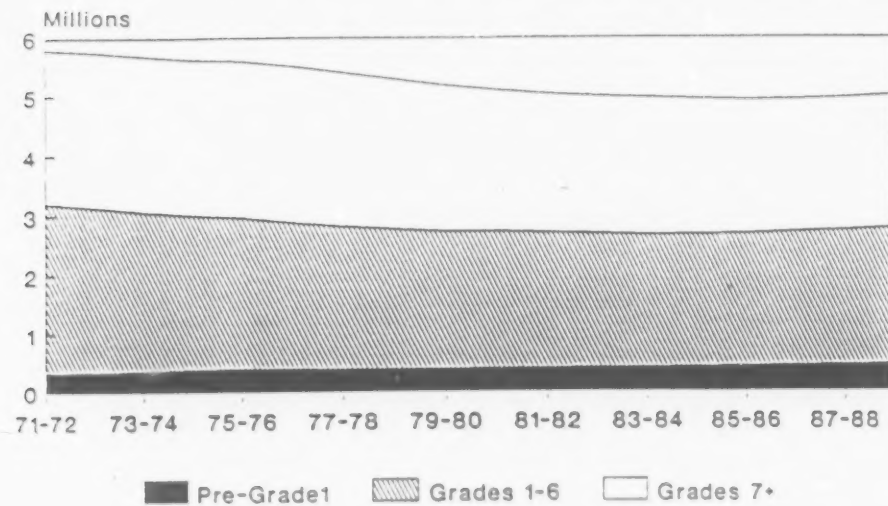


**TOTAL EXPENDITURES ON ELEMENTARY-
SECONDARY EDUCATION PER CAPITA,
PROVINCE/TERRITORY, 1984-85 AND 1988-89**



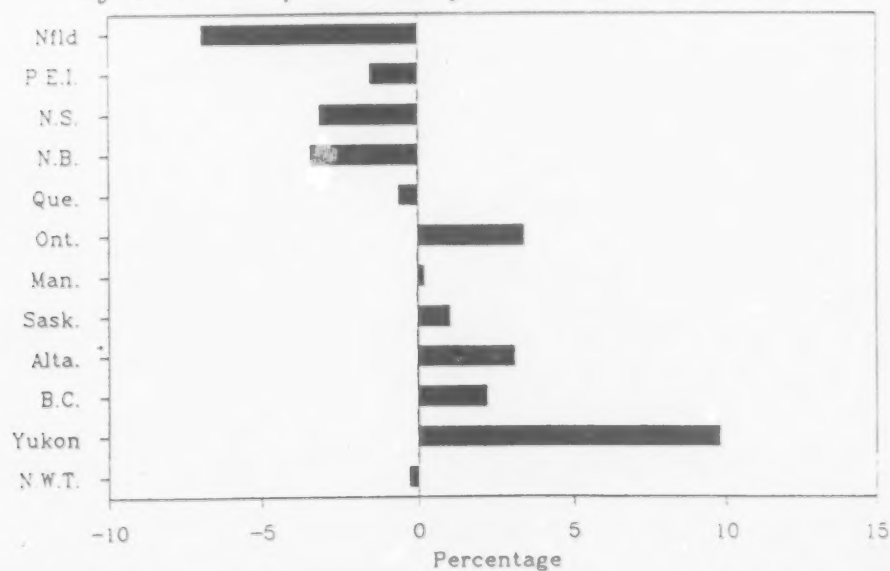
Elementary-Secondary Enrolment Canada, 1971-72 to 1988-89

Chart reference
2 3 2 1



Grade 1

Percentage Change in Elementary-Secondary Enrolment by Province/Territory, 1985* to 1988-89

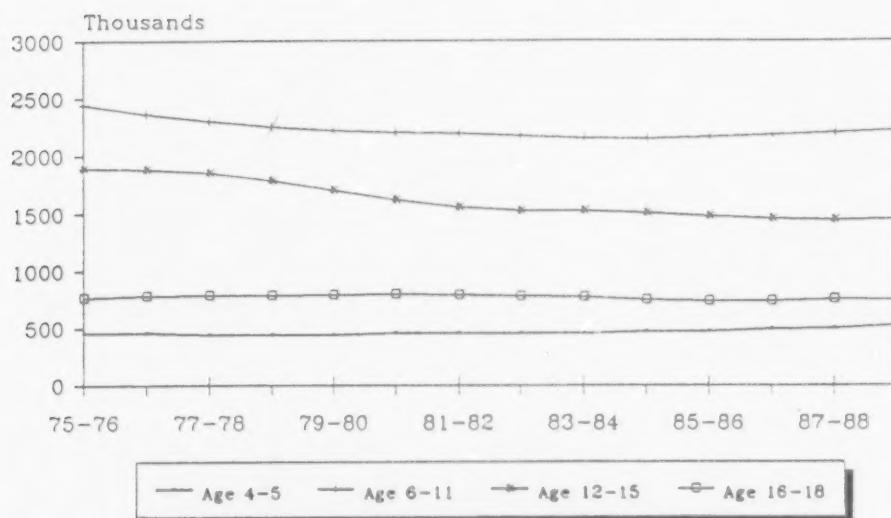


* 1985-86 represents the lowest Canada enrolment since 1962-63

Change

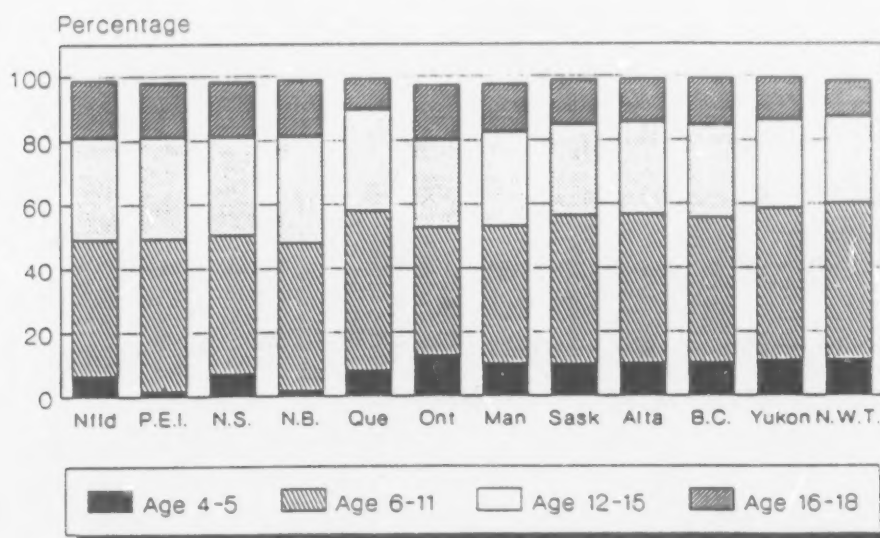
Elementary-Secondary
Enrolment by Age Group, Canada
1975-76 to 1988-89

Chart Reference
2.3.2.1A



CanESEAG

Elementary-Secondary Enrolment
by Age Group, by Province/Territory,
1988-89



ESEAG

KENYA

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INTRODUCTION

Location and Population

Geographically, Kenya is situated in East Africa. Straddled across the Equator, its landscape rises from the shores of the Indian Ocean to the peak of Mt. Kenya (5000 M) and slopes gently through the great Rift Valley Westwards to the Lake Victoria basin.

The country has an area of 582,366 sq. kilometres. It has a population of about 25 million people. Fifty percent of this population is under 15 years, thus making education one of the top challenges to the Government and people of Kenya.

The majority of Kenya's population live in the rural areas. Nairobi, the country's capital, has a population of over 1 million people. Mombasa, the main seaport has over $\frac{1}{2}$ million residents.

Economy

Agriculture and Tourism are the major foreign exchange earners in the country. About $\frac{3}{4}$ million tourists visit the country annually attracted mainly by the scenic beauty and the country's famous game reserves. Coffee and tea are the major export crops while horticultural and dairy products are gaining ground. Soda ash is one of the main minerals exported from the country and extensive exploration for oil is going on.

Government

Kenya is a republic with an elected Parliament and President. Parliamentary and Presidential elections are held every five years. The Nyayo Philosophy and the Harambee spirit are the cornerstone of National development and aspirations. Nyayo philosophy is practically expressed as a commitment by Kenyans to be mindful of each others welfare through living in love, peace and unity. The philosophy is demonstrated through Harambee (Self Help) which is a clarion call for people to pull together in unison towards achieving National goals.

EDUCATION SYSTEM

The formal education system comprises of eight years of primary education, four years of secondary education and four years of university education. The new 8-4-4 system which is more practically-oriented has replaced an earlier system of seven years primary education, six years secondary education and three years university education. In addition, there has been an increased emphasis on early childhood education, technical and vocational training, education for disadvantaged groups and adult literacy education programmes (see appendix A).

POLICIES AND STRATEGIES

POLICIES

Education is one of the most important influences on the quality of life. The Kenya Government has, therefore, been committed to the provision of equal educational opportunities for all through the provision of free primary education and the production of skilled and high level manpower to meet the growing and changing demands of the economy. The importance of education is reflected in the growing proportion of the Government budget that has been allocated this sector which rose from 10 per cent in 1964/65 to 20 per cent in 1985/86. Overall, there has been a remarkable expansion in the Country's education system.

Secondary school and teacher training programmes have also been greatly expanded and improved. Vocational, Technical, Agricultural and Higher Education Institutions have been expanded to meet the demands of the economy for technically and professionally qualified personnel. The 8-4-4 system of formal education introduced in 1985 aims at enhancing these efforts in addition to providing all round education. There has been a considerable improvement in the sex ratio in school enrolment. The ratio of boys to girls in primary schools, which stood at 192:100 at Independence fell to 107:100 in 1987. Over the same period, the ratio for secondary schools fell from 215:100 to 144:100. The pupil/teacher ratio also declined from 39:1 to 34:1 while adult literacy has risen from 20 per cent to about 50 per cent of the population over the last 27 years.

There has also been a remarkable growth in the number of schools and in the level of enrolment. The number of primary schools more than doubled between 1963 and 1987, while that of secondary schools

increased seventeen - fold during the same period. Enrolment in primary schools increased more than five-fold while that of secondary schools increased over seventeen-fold. Although the number of national universities has recently increased from one to four, enrolment in these institutions has sky-rocketed more than thirty-fold. There are also an estimated 12,000 Kenyan students studying abroad.

The development of talents of those already born needs special attention in order to ensure their best chances of finding suitable employment which will address their needs for both income, self-actualisation and personal fulfilment, through imparting relevant and adequate education and training.

EDUCATION PHILOSOPHY

The development of human resources fundamentally depends on the level and intensity of formal, non-formal and informal education and training. Our education and training system has been a subject of more than ten reviews by special commissions and Working Parties. Among others, these reviews include the 1964 Ominde Commission, 2) The 1976 Gachathi Report on Education Objectives and Policies, (3) The 1981 Wanjigi Committee, 4) The 1982 Mackay Report on the establishment of second university in Kenya, and the 1988 Presidential Working Party on Education and Training for the Next Decade and Beyond. The findings and recommendations of the Working Party have been accepted by the Kenya Government and are contained in Sessional Paper No. 6 of 1988.

The guiding philosophy on education is that in general, the education system should aim at producing individuals who are properly socialized and who possess the necessary knowledge, skills, attitudes, and values to enable them to participate positively in nation-building. It is based on the following key principles:-

- It is essential to make the public aware of importance of conservation and enhancement of the environment in carrying out their activities.

- The education system should provide skills and appropriate technology for effective development of agriculture, livestock, forestry, minerals for both large and small-scale industries and foster attitudes for self-employment in both the rural and urban areas.
- Members of the public and the youth in particular should be educated in the most economical ways of utilising agricultural land while at the same time protecting the environment.
- The development of positive attitudes towards environmental health both in the rural and urban areas must be encouraged.
- The promotion and appreciation of the national culture in its various dimensions must be seen as a prerequisite for meaningful national development.
- An appreciation of the need for population control and good family life for all communities must be developed in order to facilitate the fulfilment of basic needs and to foster human happiness.
- Full understanding of the concept and practice of the Harambee Spirit and the Nyayo Philosophy in so far as they help the mobilisation of resources for national development at Community level is the foundation of our development and must be actively fostered.
- All Kenyans must develop a sense of nationalism, patriotism, self-reliance and self-determination, the pillars upon which our national pride and dignity are built.

EMERGING ISSUES IN EDUCATION

The 8-4-4 education system in Kenya is geared to making the transition from formal education to general and specialised training for the work place more synchronized and as smooth as possible. This is achieved through the introduction of Vocational and technical courses at each level of the formal education system. These courses are designed to make the graduates at each level properly oriented to face realities in agriculture, small-scale enterprises and other forms of self-employment that most of them will inevitably have to be engaged in, as opportunities for rapid generation of jobs in the modern non-agricultural Sector will be critically limited.

The education system is, therefore, directed to finding ways and means to:-

- assist the school leaver at every cycle to find gainful employment in the modern wage sector, small -scale enterprises and other forms of self employment;
- Make the individual more easily trainable at higher levels of education and training;
- Instil realistic attitudes and aspirations regarding employment in both the parents and school leavers; and
- provide education as a human right as far as possible, and allow for both public and private participation in meeting costs of achieving this objective.

THE COST OF EDUCATION: The problem of financing education from the public budget has proved to be the most critical strategic issue facing the Government. Although the cost of education is currently borne both by the public and private sectors, the share of public expenditure on education has now become an issue of major concern. As of 1987, over 35 per cent of the total public sector recurrent budget was taken up by education alone, compared to 15 per cent in the 1960's and 30 per cent in 1980. Private spending on education is estimated to contribute 25,70 and 50 per cent of the total expenditures in primary, secondary and higher education respectively. This implies that overall, both public and private sector allocation to education range between 10 and 15 per cent of the GDP (see appendix C).

COST -SHARING:

To curtail the increase of education expenditure, the Kenya Government has introduced cost-sharing system of education through which both public and private expenditure will be rationalized throughout the education system. Parents and beneficiaries of education and training will take up those costs relating to the development and provision of education facilities, equipment and personnel services. These measures are additional to those designed to make the education system more effective and efficient and to generally bring them within the ambit of the Budget Rationalization strategy.

CHALLENGES

There are many challenges being addressed to in revolutionizing education in Kenya during this decade and beyond.

The 8-4-4 system of education which was implemented in 1985 has a heavy dose of technical education and training in practical skills right from standard five upwards. The same applies to the secondary cycle where assesment at every class will now form the yardstick for judging success or failure. But there is a problem in the Management, assessment, supervision and authentication of the scores for practical skills with a view to include them in the certificates and, for use in selection for further education and training.

The Kenya National Examinations Council and the Inspectorate will have to harmonize assessment of work done in Primary and Secondary Schools so as to utilize "This Continous Assessment" in a systematic manner.

The breadth of the curriculum covers the educational aspects from pre-school to secondary level. The universities are also orientating the curricula geared to producing graduates with practical skills coupled with a good understanding of social systems and the physical environment in which they will work and live after graduation.

Except for a few hitches here and there, analysis of Kenya Certificate of Primary Education has shown that the goals upon which the primary curriculum is based are being achieved.

The first products of the 8-4-4 secondary cycle in 1989 indicate a high degree of achievement. Like their primary counterparts, form four school leavers easily dovetail in training in the technical training institutions, youth polytechnics, institutions of science and technology, village and crafts centres.

For the first time, universities will admit the first secondary 8-4-4 products during 1990/91 academic year.

THE GENDER ISSUE

The gender aspect of education in Kenya is neither discriminating nor controversial. Where women education has lagged behind due to lack of suitable facilities such as boarding facilities, both the Government and NGOs and some churches have provided such amenities especially in urban areas, and in arid semi-arid regions.

This in effect has checked on truancy and drop-outs. Today, the ratio gap between men and women is coming closer. In some courses at the university, for example Education, Women students outnumber men students.

THE HARAMBEE SPIRIT

Harambee (pulling together of resources) efforts by the school community continue to be the force vitae" behind construction of the classrooms, Home Science rooms, laboratories and workshops. The Board of Governors, school committees and the Parents and Teachers Associations play a major part in effecting the Government's policy on "Partnership in Education strategy". Through the Harambee philosophy, 37% of laboratories, 42% of workshops and 23% of Home Science Rooms in Secondary Schools have been completed. In primary schools, 24% of workshops and 17% of Home-Science Rooms have been built to ensure the success of the new 8-4-4 system. Improvisation is taking place where facilities are not yet built.

Kenya has a teaching of 164,439 teachers deployed in 14,566 primary schools. Slightly over 45,000 of these teachers are untrained. A number of these untrained teachers are undergoing in-service training. The 15 Primary Teacher Training Colleges with a student enrolment of 16,286 are being boosted with an addition of seven more colleges currently under construction through finances provided by the World Bank.

PRE-SERVICE PRIMARY PROGRAMMES

Students for pre-service primary teacher training programmes are recruited from candidates who choose teaching as a career.

The Pre-Primary teacher's programmes are being reviewed, co-ordinated and harmonised in order to improve the quality of teaching at this important stage of a child's development. A national centre for Early Childhood Education has been established at the Kenya Institute of Education and is supported with 18 fully fledged District Centres for Early Childhood Education and 10 associate centre strategically placed all over the country. The Kenya Government has come up with pre-school guidelines for Pre-school Education. It has been possible to produce materials for pre-school activities and guide services and manuals on health education for pre-school teachers. Various agencies and private organizations are being encouraged to sponsor and release teachers for training.

INSPECTION AND SUPERVISION

Inspection and supervision process is a general responsibility of the Inspectorate Division at the Ministry of Education. The Ministry of Education is fairly manned by education officers and school-inspectors who supervise primary education at District, Divisional and zonal levels. An education zone normally has one inspector covering 30 schools. Because inspection and supervision are Central to proper teaching and learning, experienced educators are deployed in this sphere. Transport is a major handicap in supervisory work. Cars, motorcycles, bicycles and in remote areas donkeys and camels are in use.

Kenya experiences negligible problems of co-ordinating curricular changes in relation to examinations and teaching. The Kenya Institute of Education, which develops curriculum has a well co-ordinated system. It links with the Kenya National Examinations Council which is charged with the responsibility of Examinations and certification. Linkages between the two bodies work well through subject panels, course panels, the academic board and the examination, research and evaluation section of the Kenya Institute of Education.

WAYS OF RAISING QUALITY

CURRICULUM AND ASSESSMENT

Qualitative improvement in education evidently calls for a strong based curriculum. The Kenya Institute of Education is the national curriculum development and research centre and caters for all levels of education in the country except the University. Besides conducting research and developing curriculum, the institute organizes orientation programmes to guide teachers, education administrators and college tutors on implementation of new syllabuses. Such programmes are aimed at updating them with the latest changes and developments in the curriculum.

The current curriculum is designed by the Kenya Institute of Education and conforms to the 8-4-4 education system to ensure that the content is relevant to the national needs and aspirations. The curriculum has an equitable balance between theory and practical skills but with a stronger emphasis on the latter. The curriculum therefore, gives the necessary values, skills and attitudes to those learners whose education is terminal at any one stage of the curriculum. Learners are therefore exposed to the World of Work or are given skills to make them trainable in Vocational institutions and institutes of Higher Learning.

At all levels, the Kenya Institute of Education ensures that the curriculum offered is well co-ordinated and harmonised to ensure sequential development of concepts and skills so as to enhance complementarity between subjects. The flexibility of the curriculum allows for adaptability in its implementation so as to meet institutional and environmental needs.

The institute in close liaison with the Ministry of Culture and Social Services develops curriculum for untrained teachers in the Ministry of Education.

As hinted earlier on the Kenya Institute of Education also develops the curriculum for teacher training Colleges. The skills, values and attitudes learnt in college ensure that while in the field, the teachers practise methods that help to provide balanced education. Secondly, the training background of the teachers and the administrative and supervisory services of the ministry ensure effective implementation of the total curriculum that provides an all round development of the students.

The provision of quality basic education entails the development of dynamic relationships and partnerships among the various providers. Those who provide education may be drawn from government ministries and departments, the non-governmental organizations, the Community, churches and voluntary organizations. The institute ensures this relationship and partnership is brought about by appointing representatives of all parties concerned in the various stages of curriculum development.

Further relationship between curriculum, assessment and national standardised examinations is brought about by harmonization and co-ordination of various programmes and activities. Some teachers who implement the curriculum are members of the subject panels at the Kenya Institute of Education. Some are also involved in the marking of the various subjects papers offered in the curriculum at the Kenya National Examinations Council. National Examinations are also set from the subject syllabuses prepared at the Kenya Institute of Education. In summary, while the Kenya Institute of Education is responsible for various activities related to curriculum development and research, the Kenya National Examinations Council is responsible for examination and certification. The Community and other non-governmental organizations support the process by providing the various resources and facilities needed.

TRAINING AND PROFESSIONAL SUPPORT FOR TEACHERS

The pre-service training programme for primary school teachers is of two years duration. Trainee teachers are recruited mainly from those who have finished successfully 4 years of secondary education. However, some of the trainees are drawn from candidates who have finished two years of secondary school education or eight years of primary education. The latter usually come from disadvantaged areas of the republic.

Students in Primary Teacher Colleges undergo a two year general course designed by curriculum specialists at the Kenya Institute of Education. The course comprises of a core curriculum in professional studies. Subjects comprising professional studies are psychology of education, philosophy of education, sociology of Education, History of Education, school Administration and Management, school curriculum and General Methods of Teaching.

Besides this core subject, all the other subjects taught in Kenya's Primary school curriculum are offered. This includes their content and the methodology of teaching them. Practical teaching is taught through demonstration lessons in the College and during actual teaching practice in the local community schools. At the end of the two year course, students have to pass in both practical teaching and written examination. Practical teaching is assessed by officers from the Kenya Institute of Education, Inspectorate, and tutors from the Teacher Training Colleges. Written examinations are set by the Kenya National Examinations Council. Continuous assessment is an important component of the course. This is mainly necessary in practical teaching.

INSERVICE COURSE FOR PRIMARY SCHOOL TEACHERS

Like in the case of teacher training colleges, the recruits are selected from serving untrained primary school teachers who have finished four years of secondary education. The duration of the course is three years and sessions are held during the vacations at the colleges using the same facilities and teachers as the pre-service students. The content is the same as that of the pre-service course but with a strong emphasis on academic work and methodology. The curriculum is also designed by the Kenya Institute of Education. Radio lessons form a supplement of the course and are offered throughout the academic year.

At the end of the three years, teachers have to pass both written examination set by the Kenya National Examinations Council and practical teaching. Supervision and evaluation of the teachers is done by primary school inspectors and administrators. once again, harmonization and co-ordination among all those involved in designation and evaluation is very necessary.

INNOVATIVE APPROACHES

Innovative approaches to teacher training programmes have been introduced. Besides practising the philosophy of child centred education. Learning Resource Centres have been introduced in the training Colleges and Teacher Advisory Centres have been set up at Divisional and zonal levels.

At the Learning Resource Centres, student teachers learn modern methods of teaching. This includes use of audio-visual aids as well as making and using local teaching aids. At the zonal level, practising teachers update their knowledge in the making and use of learning materials, as well as testing the learners assessment techniques in the various subjects of the school curriculum. Each Teacher Advisory Centre is manned by an experienced tutor - appointed from those teachers who have excelled in the national examinations or have excelled as primary school headteachers.

RAISING AND MAINTAINANCE OF MORALE OF TEACHERS

Kenya's education systems allows teachers measures to raise and maintain their morale including professional support. Primary school teachers automatically become members of the Kenya National Union of Teachers (KNUT) on graduation. Besides lobbying for improvement in the terms and conditions of service of its members, KNUT also contributes to the improvement of professional standing of its members as well as raising of educational standards of the pupils. This is done through organization of courses and seminars for the Union executive officers as well as its members. KNUT officials also take active part in the national and international educational conference, courses and seminars. Members of the Union also exchange professional ideas through articles in their national journal.

AWARDS AND PROMOTION

Those primary school teachers who contribute positively to the improvement of educational standards are rewarded accordingly through promotion on merit to higher grades or by appointment to become Assistant Education Officers or Assistant Primary School Inspectors. This kind of promotion is given to those teachers and headmasters and headmistresses whose schools perform consistently

and exceptionally well in the national examinations, in extra curricula activities like music or sports at both local and national levels and those who distinguish themselves as effective school administrators and managers.

STATUS OF WOMEN TEACHERS

Women teachers enjoy equal terms and conditions of service as their male counterparts. They therefore enjoy the same salary scales, conditions of promotion on merit, appointment to administrative and supervisory posts as well as retirement benefits.

APPRAISAL

The appraisal of teachers is a combined effort of the school headmasters, assistant inspectors of schools and assistant education officers and the District Education Officers. Appraisal is normally done for improvement of professional standards and promotional purposes.

LEARNING MATERIALS

The functions of development, production and distribution of books and other learning materials is for the Kenya Institute of Education. However the books produced by the Kenya Institute of Education are sent in manuscript form to either the Kenya Literature Bureau (KLB) or Jomo Kenyatta Foundation (JKF) who are the Ministry's publishers. Consultations are made between the publishers and the curriculum specialist for the particular subject before a particular book is finally published.

LANGUAGE PROBLEM AND MEDIUM OF INSTRUCTIONS

Kenya is a multi-lingua society with about fifty five local languages. The National Language Policy stipulates that learning in the Pre-schools, lower primary school classes and in adult literacy classes be done through Mother Tongue. The Mother Tongue is also taught as a subject in the Lower Primary classes so as to establish basic language skills and permanent literacy for life. The medium of instruction in the lower primary in major urban areas in Kiswahili.

The curriculum developed by the Kenya Institute of Education for these levels reflects the norms and values of the Kenya nation and focuses on special needs of children and adults from different cultural settings.

In the Upper Primary-Section, the medium of Instruction is English. Books and learning materials are prepared in English except for Kiswahili. English and Kiswahili are taught like any other subject. The problem of minority groups both in the urban and Rural Areas is therefore either minimal or non-existent.

MANAGEMENT OF EDUCATION

The Minister for Education is the political head who ensures that the education system is in line with the country's political philosophy. He is assisted in this task by three Assistant Ministers. The Permanent Secretary for Education is the policy maker and heads the Department of Administration in the Ministry. He is the Accounting Officer, Formulator and implementor of Government Policy on education, and controller on the implementation of Government Policy on matters related to parastatal bodies and institutions under the Ministry. He has the following Divisions to assist him in running the Ministry:

FINANCE & ADMINISTRATION DIVISION

This Division is responsible for the day to day administrative and financial management of the Ministry. It takes action on all policy matters and Cabinet decisions that involve the Ministry and prepares all Cabinet Memoranda. They process appointments, co-ordinates Provincial and District education services including School Feeding and Milk Scheme. The Division is also responsible for the preparation of Staff Appraisal Reports and all matters related to Finance and Establishment in the Ministry. The Chief Personnel Officer, the Principal Finance and Establishment Officer, Senior Assistant Secretaries, (Finance and Administration), and the transport officer all perform their duties under this Division.

DEVELOPMENT AND PLANNING UNIT

This Division is responsible to the Permanent Secretary on all matters related to planning and development of education, feasibility studies and their implementation, District focus for Rural Development and the preparation of Education Chapter of the National Development Plan. The Under-Secretary (Development), Senior Assistant Secretary (Development) and Assistant Secretaries are some of the Senior Officers involved in Planning education in Kenya.

THE PLANNING UNIT

This Unit is headed by a Deputy Chief Economist and is responsible to the Permanent Secretary for all matters related to short term, medium term and long range planning in Education, the identification and preparation of project briefs and proposals for funding, the feasibility studies and collection of education statistics and other form of data for planning purposes and for inclusion in the Ministry's Annual Report. The Deputy Chief Economist is assisted by Senior Educational Economist, Several economists, planning officers, educational planners and statisticians.

THE PROJECT IMPLEMENTATION UNIT

This Unit co-ordinates construction work in our schools, procures foods for our institutions and maintains appropriate progress reports for submission to relevant organizations as and when required. It establishes and maintains financial records of expenditure on the Ministry's projects funded externally. This Unit is funded by the World Bank, African Development Bank and the European Economic Community. It is headed by a Director who is assisted by a team of educationists, engineers and architects, among others, who help him to run the Unit.

THE SCHOOL FEEDING AND MILK PROGRAMMES

The School Milk Programme started in 1979, supplies all Primary children with free milk twice a week. It is a locally financed programme.

The School feeding programme on the other hand, is a joint project between the Government of Kenya and the UN/FAO World Food Programme and provides Mid-day meals to primary and pre-primary children from the arid and semi-arid Districts of Kenya.

It has been noted that the School Milk Programme and the School Feeding Programme have had a very positive impact on the health of primary school children. It has also been noted that enrolment has gone up and daily attendance is now more regular.

THE DIRECTORATE

The other Department of the Ministry is headed by the Director of Education. He is answerable to the Minister and the Permanent Secretary for Education on all professional matters related to promotion and management of education in Kenya. The following organs of the Ministry ensure that educational standard are maintained and the curriculum is taught, examined and evaluated:-

THE INSPECTORATE

The Inspectorate Division of the Ministry deals with all matters related to School Inspection, promotion of teachers on merit, the teaching of the curriculum and organization of co-curricular and extra-curricular activities in our schools.

THE KENYA INSTITUTE OF EDUCATION (KIE)

As already mentioned, the Kenya Institute of Education is a Curriculum Research Centre and Co-ordinates and develops all School curriculum in Kenya. It also harmonizes different syllabus and courses run by the other training Government Departments.

THE TEACHERS SERVICE COMMISSION (TSC)

The Teachers' Service Commission is the employer of the teaching force in Kenyan schools - both primary and secondary. It promotes, demotes, deploys and disciplines teachers.

THE KENYA EDUCATION STAFF INSTITUTE (KESI)

The Kenya Education Staff Institute is charged with the responsibility of training head teachers, curriculum developers, inspectors, education administrators, bursars and auditors to ensure smooth management of our schools.

THE KENYA NATIONAL EXAMINATIONS COUNCIL (KNEC)

The Kenya National Examinations Council charged with the responsibility of setting, marking, moderating, and certification of National Examinations. It receives the syllabi from KIE and arranges for its examination and marking.

THE KENYA NATIONAL COMMISSION TO UNESCO

The Kenya National Commission to UNESCO and other International Organizations is the Government clearing House for projects and requests to UNESCO.

THE JOMO KENYATTA FOUNDATION AND THE KENYA LITERATURE BUREAU

These are the publishing houses for the Ministry of Education. They receive their manuscripts for publication from the Kenya Institute of Education and thus arrange for the publishing and production of cheap educational books.

THE SCHOOL EQUIPMENT PRODUCTION UNIT (SEPU)

SEPU's main goal is to assist in the improvement of teaching both in content and method and in adapting teaching aids to Kenya's needs in line with financial resources. SEPU has continued to design and manufacture blackboard set squares, protractors and compasses, primary school science kit, T-squares, drawing boards etcetera.

THE EQUIPMENT MAINTENANCE UNIT (EMU)

The Unit is concerned with servicing and maintaining equipment/machineries in our schools and runs in-service courses for workshop assistants.

The Directorate of Education is also involved in the running of the pre-primary, primary, secondary special education and teacher education programmes. All these sections are headed by a Deputy Director of Education who are assisted by Assistant Director of Education, Senior Education Officers, Education Officers and Support Staff.

PROVINCIAL AND DISTRICT EDUCATION OFFICES

At District Level, the hierarchy goes down to the District Education Officer who is responsible for all administrative and professional matters in the District. The District Education Officer is assisted by several Education Officers and School Inspectors. The District Education Officers and School Inspectors co-ordinate the administrative and supervisory services of the several assistant primary School Inspectors at divisional and zonal levels. All the DEOs work under the Provincial Education Officers who do similar work at the Province.

BOARDS OF GOVERNORS & SCHOOL COMMITTEES

In order to reinforce the above services, the Government has vested the management of schools and other training institutions to Boards of Governors, School Committees, Special Advisory Committees, Commissions and Education Boards. The management bodies formulate policies and guidelines, control and regulate policies relating to development, financial provisions as well as discipline for teachers and pupils. In this way the Community works closely with the Government on the administration and management of education.

THE MUNICIPAL EDUCATION OFFICERS

In the major Urban areas, the administrative and supervisory services of education falls under the Municipal Education Officers. In both rural and urban schools, headmasters and headmistresses are appointed to administer and manage schools. They are appointed from teachers who have the appropriate academic and professional qualifications, experience, competence, integrity and initiative. Finally, in furtherance of educational development and management, District Education Boards have been established in all the Districts.

FINANCIAL CONTROL

The Ministry of Education ensures that funds given to schools by the government and those raised by the communities through the Boards of Governors and Parents Associations are properly and appropriately utilised. This is the role of the Audit Department of the Ministry of Education. The Department makes constant review of the books of accounts of the various schools to ensure that funds are neither misappropriated nor mismanaged.

EDUCATION AND THE COMMUNITY

Adult Education is provided by the Ministry of Culture and Social Services. The department of Adult Education works closely with the Kenya Institute of Education for the preparation of curriculum and reading materials. Basic Education within the context of Adult Education means the organized process by which adults acquire knowledge, skills, attitudes and values that they need for improvement of quality of their lives. Through programmes for adult education, individuals acquire the ability to read, write and to work with numbers. They also engage in further training in order to adapt to change and participate fully in the cultural, social and economic life of their community and the nation. Adult education therefore goes beyond the traditional scope of merely reading and writing. Besides normal studies in reading, writing and numeracy other skills, values and attitudes are learnt through the functional approach. The latter involves integrating literacy with peoples Culture and Social-Economic activities in their own areas. Income generating projects are introduced in most literacy classes and demonstration plots established in the farming communities. Teaching of literacy is in this way made relevant to their needs. The occupational skills are provided to sustain the literacy skills acquired.

As the scope of adult education is large, intersectoral approach has been adopted. This brings collaboration between government departments, NGOs and other agencies in the implementation of literacy programmes, occupational skills training and youth programmes. While other departments provide specific programmes backed by professional expertise and experience, the Department of Adult Education avails an opportunity for discussion of relevant issues and development of literacy materials based on these issues. In summary, all government departments, NGOs and some private firms provide out of school education. It reaches the public through the radio, newspapers, magazines, advertisements, local courses, seminars and public meetings.

RESOURCES AND INTERNATIONAL CO-OPERATION

The Education Resources referred to include personnel teaching and support staff, classrooms, chalkboards, desks, and all other facilities that a school needs to function smoothly. Whereas the local communities have tried to provide all these, it has proved difficult for example in the construction of the 8:4:4 facilities. See appendix G. This is where the wherewithal of International Community becomes necessary. International Co-operation helps in financing education, putting up new buildings, paying for specialist consultants to advise on education matters and providing other resources needed.

The teaching force in some of our schools is inadequate especially in the pre-primary levels. Here the Kenya Government has called upon the abilities of the helpers and school maids to supervise pupils during lunch and tea breaks and also to help dress them after games.

In the 8:4:4 System, the Kenya Government has also drawn upon the expertise of the local community. Local masons and carpenters are invited in schools to demonstrate the making of certain articles. The parents have had to take part in teaching their children at home as the curriculum is very wide and can only be completely taught if all concerned are involved in its development.

Kenya is a member of many International Organizations vis a vis the World bank, the IMF, the P.T.A. and the Commonwealth. She has signed many cultural and education agreements with a number of foreign countries so that she can train her manpower resources, and give exposure to her citizens.

Educational linkages have been established with countries like Britain, the U.S., Japan, Germany, France, Australia etc to name a few and visitorships, exchange of teachers, and teaching materials have been effected. Officers of the Ministry of Education have taken part in International Conferences discussing educational issues at either the Commonwealth Ministers of Education Conferences, the UNESCO General Conferences, the International Bureau of Education Conferences, Specialist Regional Conferences like CASTME, Regional Conference of The Commonwealth Educational Administrators, and others.

The Kenya teachers have also not been left behind. Through the WCTP, through KNUT, and through subject seminars have been exposed to modern methods and debate on what is taking place in the World.

Fortunately too, Kenya is involved in a number of educational activities taking place on an International Scale. Some of these activities take place in Kenya. The African Bureau of Educational Research has a regional centre at Kenyatta University. The African Social and Environmental Programme has its headquarters at the Kenya Institute of Education. UNESCO's ROSTA regional offices are situated in Nairobi and HABITAT has its headquarters in Kenya. The UNDP, NORAD, DANIDA, CIDA, SIDA, and the British Council all have offices in Kenya and partake in programmes related to education development among others.

Other International Organizations which contribute substantially to development of education in Kenya are The Basic Education Research Centre stationed at Kenyatta University, Network for Education Innovation and Development in Africa (NEIDA) which focuses on exchange of information on education matters. NEIDA members have joined with other 14 African Countries in another programme of Information Training and Education Material (IFOMA) which is funded by the Spanish Government and has its main duty as holding workshops to discuss production of educational materials.

The Basic Education Research Centre carries out research on basic education and disseminates the results to its 15 member countries. The centre also acts as a repository of relevant materials on basic education. The African Social and Environmental Studies Programme mentioned earlier, also provides information on social studies for both primary and secondary schools.

COFORPA - a UNESCO project funded by the Swedish Government focuses its resources on the Kenya Education Staff Institute to train education managers in this sub-region. Sub-regional seminars and workshops for Education Officers, Curriculum developers, trainers, education administrators and headmasters of schools are held regularly to acquaint the personnel concerned with modern management techniques.

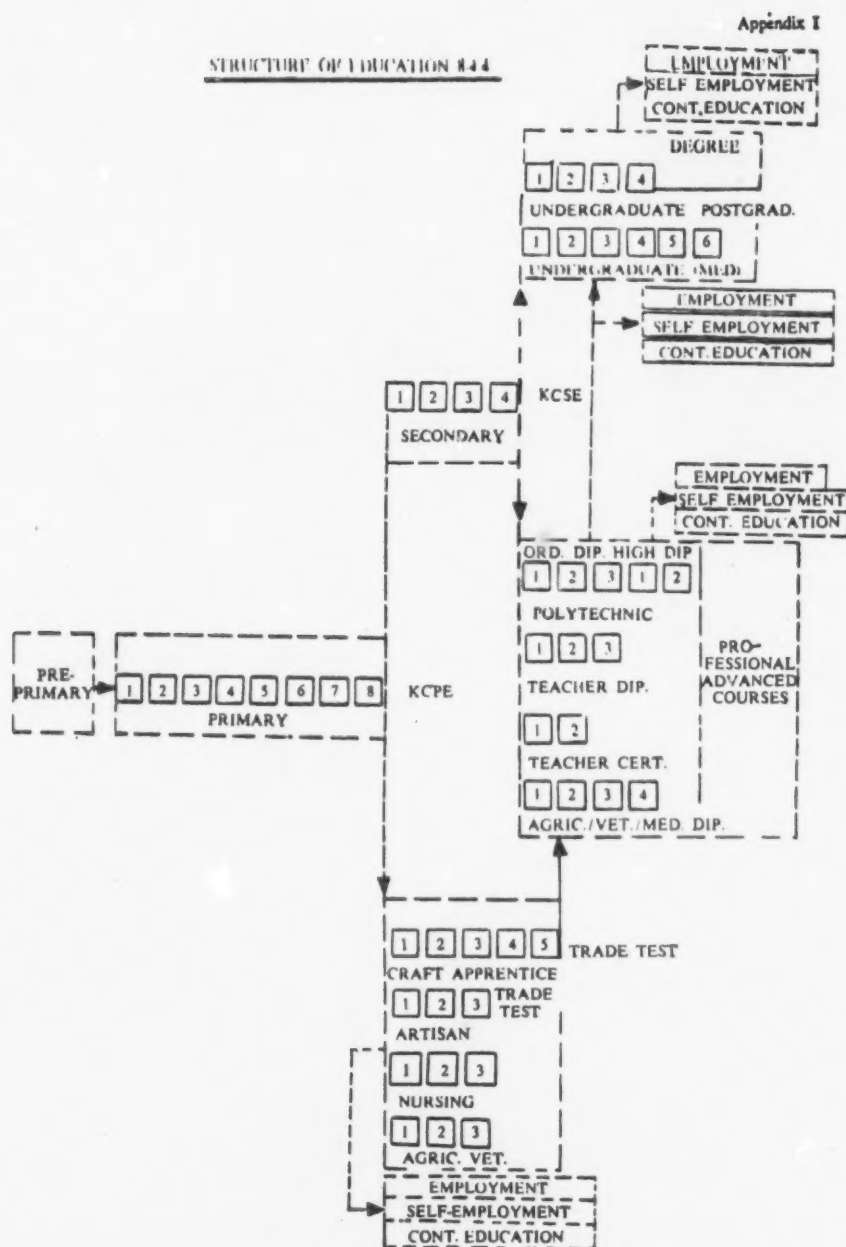
The closure in 1989 of the UNESCO sub-regional project for special education was a major blow to this region. It was located in Nairobi, and was closed because of lack of finances. The efforts of DANIDA in funding The Kenya Institute of Special Education needs special mention. Teachers for the Institute have been sponsored through the project finances. Equipment and buildings have also been provided through the same project. The institute at the moment is training teachers for Special Schools through the sponsorship of DANIDA.

The International Development Association (IDA) the Overseas Development Administration (ODA) and the African Development Bank give considerable finances for teacher education, secondary education, early childhood education and curriculum development.

Finally, Kenya has continued to receive assistance from many countries through bilateral and multi-lateral arrangements in support of Education. A number of International Non-Governmental Organizations (NGOs) also operate in the country with commendable positive effects on education development at the basic level. Religious organizations are a leader in this aspects.

CONCLUSION

This is a running commentary on our efforts to improve quality of basic education in Kenya. We hope our experiences in improving basic education within the available limited resources is a pointer of the problems and successes experienced by the other Commonwealth Countries. We shall learn from your experiences as much as you learn from us. The most important aspect however, is that the Commonwealth Countries should continue to exchange ideas on how to improve education standards, how to reduce the education budget without lowering the standards we have set and to co-operate fully on all educational endeavours. The Establishing of The Commonwealth of Learning is a pointer in the right direction.



APPENDIX (B)
GROSS ENROLMENT RATIOS (PRIMARY SCHOOLS)

YEAR	PROJECTED POPULATION 6-14 YEARS OLD	ENROLMENT	G.E.R %
1979	4,026,944	3,698,246	91.8
1980	4,438,276	3,926,629	88.5
1981	4,635,515	3,981,162	85.9
1982	4,836,409	4,184,602	86.5
1983	5,039,565	4,323,822	85.8
1984	5,241,474	4,380,232	83.6
1985	5,425,918	4,702,414	86.7
1986	5,642,069	4,843,432	85.8
1987	5,864,486	5,031,340	85.8
1988	6,092,954	5,123,581	84.1
1989	5,336,592	5,389,148	85.0

A close analysis of the above data shows that the 1979 GER is exceptionally high. This was as a result of provision of free school milk that made children to enrol in big numbers and secondly as a result of introduction of free primary education up to standard eight.

APPENDIX : C

EDUCATION FINANCE: GROWTH IN EXPENDITURE 1979/1988

RECURRENT KSHS. '000'				DEVELOPMENT KSHS. '000's		
YEAR	EDUCATION	TOTAL GOVERNMENT	%	EDUCATION	TOTAL GOVERNMENT	%
1978/79	1,907,470	7,439,620	25.6	133,570	5,364,121	2.4
1979/80	2,293,936	7,945,382	28.8	154,796	4,859,122	3.1
1980/81	2,997,074	10,120,228	29.6	250,354	5,162,454	4.8
1981/82	3,298,184	11,006,006	29.9	277,924	6,489,596	4.2
1982/83	3,548,606	11,658,030	30.4	286,672	7,134,437	4.0
1983/84	3,671,084	12,251,660	29.9	287,748	6,006,854	4.7
1984/85	4,429,154	14,825,570	29.8	403,330	8,729,432	4.6
1985/86	5,926,843	16,529,646	35.8	344,660	8,195,960	4.2
1986/87	6,760,134	18,593,876	36.4	481,179	10,749,564	4.5
1987/88	7,711,678	23,338,193	37.7	643,604	12,273,306	5.2

Public revenue allocated to education accounts for about 38% of total government recurrent expenditure. The government feels the trend has to be rectified by bringing down the educational share to 30%.

APPENDIX: D

DISTRIBUTION OF TRAINED AND UNTRAINED PRIMARY SCHOOL TEACHERS BY PROVINCE 1986/1987

PROVINCE	NO. TRAINED	NO. UT	UT %	NO. TRAINED	NO. UT	UNTRAINED %
Central	19748	3094	13.5	211121	2793	11.7
Coast	5280	3755	41.6	5589	4102	42.3
Eastern	15246	9105	37.4	19348	9011	31.8
N.Eastern	450	325	41.9	394	394	50.0
Nairobi	3383	521	13.3	3535	521	9.7
Nyanza	16273	11492	41.4	17855	10963	38.0
R.Valley	20569	11622	36.1	21970	11591	35.2
Western	13623	5222	27.7	14588	5016	25.6
Kenya	97572	45236	31.7	104400	44751	30.0

To improve the quality of education, the country has to reduce the number of untrained teachers. This will be done by expanding training facilities in the pre-service and inservice courses. The opening of the new primary teacher training colleges which are under construction will rectify the situation to a large extent.

APPENDIX: E

PRIMARY - SECONDARY PROGRESSION RATES, 1970 - 1986

YEAR	PUPILS IN FINAL PRIMARY STANDARD	PUPILS IN FORM 1 THE FOLLOWING YEAR	PROGRESSION RATE %
1970	163851	-	-
1971	173150	46246	28.2
1972	183240	53480	30.9
1973	194875	58693	32.0
1974	124272	64746	33.2
1975	224439	73690	34.4
1976	243214	94834	41.7
1977	237140	106496	43.8
1978	258505	104655	44.1
1979	281689	109174	42.2
1980	351407	112405	39.9
1981	328498	123460	35.1
1982	371525	129602	39.5
1983	385300	139614	37.6
1984	452983	150475	39.1
1985	360100	-	-
1986	-	163256	45.3

APPENDIX : F

PERCENTAGE OF PUPILS COMPLETING THE PRIMARY EDUCATION SYSTEM, 1963/69- 1982/89

Year in Standard 1	Year in Terminal Grade	Terminal Grade	Enrolment in :-		Percentage Completing
			Standard 1	Terminal Grade	
1963	1969	8	137,220	150,647	109.8
1964	1970	7	180,210	163,851	90.9
1965	1970	7	195,733	173,150	88.5
1966	1972	7	193,909	183,240	94.5
1967	1973	7	228,769	194,875	85.2
1968	1974	7	250,757	214,272	85.5
1969	1975	7	253,298	227,439	89.8
1970	1976	7	296,459	243,214	82.0
1971	1977	7	306,896	237,140	77.3
1972	1978	7	357,366	258,505	72.3
1973	1979	7	379,370	281,689	74.3
1974	1980	7	956,844	351,407	36.7
1975	1981	7	668,166	368,493	55.2
1976	1982	7	571,872	371,525	65.0
1977	1983	7	603,259	385,300	63.9
1978	1985	8	599,056	360,147	60.1
1979	1986	8	977,368	344,954	35.3
1980	1987	8	906,118	368,165	40.6
1981	1988	8	844,509	368,417	43.6
1982	1989	8	908,764	414,610	45.6

In 1963 the terminal classes composed of some standard 7 and the standard 8 pupils who both sat for the same examination. The standard 8 then, was being phased out completely till its was reinstated in 1985. The question of drop outs is still worrying c.f. 1974, 79,- 82.

APPENDIX (G)

PHYSICAL FACILITIES

Year	No. of Primary School	Std.8 Classrooms		Home Science Rooms		Workshops	
		Reqd.	Completed	Reqd.	Completed	Required	Completed
1987	12,000	12,447	9,673	9,721	698	9,593	1,413
1988	13,000	12,673	10,931	11,771	1,294	12,241	2,310
1989	14,566	13,800	12,315	12,055	1,744	12,235	2,741

As can be seen, 95% of the Std.8 classrooms have been put up. However, the construction of home science rooms and workshops has been slow. Improvisation is responsible for this to a large extent, although the government has continued to encourage the communities in conjunction with local leaders to intensify their efforts to construct proper rooms, for effective implementation of the 8:4:4: programme.

UGANDA

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1.0 COUNTRY PROFILE

- 1.1 Uganda is a land-locked country which lies astride the equator, in the heart of Africa, covering 241,139 square kilometres, 17% of which is water. Most of the country lies at 900 - 2,000 metres. The high altitude makes Uganda enjoy a generally mild tropical climate with temperatures ranging between 16°C and 30°C. The average rainfall of about 193 cm., coupled with altitudinal variations, make Uganda grow a wide range of subsistence and cash crops including temperate crops such as wheat and barley. The ecological and cultural richness of Uganda makes the country a real "Pearl of Africa" with a variety of tourist attractions.
- 1.2 The national population which is now estimated at around 16.5 million has an annual growth rate of about 3.3% and a density of nearly 70 persons per square kilometre. It is characterised by a high dependency rate with about 50% of the population under 15 years of age and 20% being children under 5 years. Females constitute about 50.5% of the population according to the 1980 census. Life expectancy is 53 years for males and 57 years for females. Infant mortality rate is 105 out of 1,000 live births and the fertility level is between 6 and 7.
- 1.3 The current literacy rate in Uganda is estimated at 55% of which 65% is for males and 45% for females. The population age-group 6 - 12 is estimated at 3.1 million which is about 18.8% of the total population. Of these, 43% are females. At Secondary level, 21% of the age-group 13 - 18 are enrolled in schools.

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- 1.4 Uganda attained independence in 1962, and in the period between 1970 and 1985 experienced political instability which led to serious economic decline. During that period, skilled manpower including a large number of professional teachers fled the country while most of the physical infrastructure of industries, health, education, transport and other commercial and service sectors was hardly repaired nor maintained. The export base fell from six to one export crop and industrial production had declined by 74%. All these resulted in an acute shortage of commodities, services and foreign exchange. The economy was characterised by high inflation rate, huge government deficits and a heavy public debt service which was more than half of annual earning by the end of 1985. The GDP in real terms had declined by a cumulative 14% in preceding 15 years.
- 1.5 It is this political and socio-economic situation that the present Government, the National Resistance Movement Government (NRM) inherited when it came to power in 1986. Since then, it has made great efforts to reverse the economic situation towards an upward growth trend. To this end an Economic Recovery Programme (ERP) was launched in 1987, with the main aim of restoring financial stabilization and initiating the rehabilitation of the country's social infrastructure. Emphasis has been placed on quick recovery of the productive sectors in the short run so as to set up a base for an integrated and self-sustaining economy in the long run.
- 1.6 To-date, the Recovery Programme measures have already made a positive impact on the economy as reflected by an upward trend of economic growth with the GDP registering a 7.0% and 7.2% real growth in 1987 and 1988 respectively as compared to the negative growth rates in 1985 and 1986.

- 1.7 Agriculture has been and continues to dominate the economy of Uganda. In 1988, the sector accounted for 50% of GDP, 40% of Government revenue, over 90% of exports, and employed 80% of the working population. Agricultural activities are carried out almost wholly by 2.1 million small-scale producers, each holding an average farm size of about 3 hectares.
- 1.8 In 1986, the NRM Government came to power and introduced a democratic political system based on Resistance Committees and Councils emanating from the village level up to the national level. The system is centred on local community involvement and participation in all affairs of development including education. Indeed it is particularly supportive to basic education programmes which are generally community based.
- 1.9 This is the background against which education is reviewed.

2.0 CURRENT EDUCATION/SITUATION

2.1 Pre-School

Outside the home, education at this level is basically in the hands of private agencies, communities and individuals. Most of the nursery schools or play groups are in urban areas and national enrolment is about 5% of the age-group 2 - 5 years. They follow their own scheme of activities. Government is establishing a system of streamlining the programme, including providing guidance and supervising the running of nursery schools.

2.2 Primary

The seven-year primary education provides basic education leading to Primary Leaving Examination Certificate in four subjects - English, Mathematics, Science and Social

Studies. There are two main categories of primary schools, namely: private schools under the management of non-governmental agencies and government controlled schools. At present 65% of children of primary school-going age attend Primary school.

There are 8,023 government-aided primary schools and 1,200 private schools. Local Authorities in Uganda are responsible for building primary schools. However, over the years, this responsibility has been nominal. The drive towards universal primary education has led local communities to take on more responsibility for building primary schools in either temporary or permanent materials. In addition, increasingly parents are buying scholastic materials and furniture which are scarce in schools.

However, the pace of expanding primary schools is slower than the rate of demand for places in schools, and the problem is compounded by the rate of population increase. This has led to overcrowding in classes especially in urban schools.

Primary Education in Uganda is controlled by two Ministries. The Ministry of Education trains, registers and supplies all required teachers. It prescribes a national curriculum and provides textbooks, administrators and inspectors. The Ministry of Local Government is in charge of capital development. The high cost of these educational inputs has limited the pace of quantitative expansion at this level, and undermined the target of achieving UPE.

For example, about 65% of the school age group (6 to 13) were enrolled in 1988. This is approximately 2.64 million pupils of whom about 44% are female. Overall, school enrolment recorded an average annual growth of 7.5% during the period 1980 - 88 whereas primary enrolment during the

same period increased at an average annual growth rate of 6.9% against the 3.2% annual growth of the school-age population (6 to 13).

Currently 40% of Primary school leavers are absorbed into post-primary schools, implying a "Wastage" of 60% of P.7 school leavers.

2.3 Secondary and Technical Schools and Institutes

Secondary Education comprises two levels; four years of lower secondary education leading to Uganda Certificate of Education (O'level). At present there are 520 Government aided secondary schools and about 300 private. Most of the latter have been built by parents on self-help basis while the rest are owned by voluntary agencies and individuals. Like primary schools, many Secondary schools lack some of the basic facilities particularly textbooks and equipment. Of those students who successfully completed "O" level at Secondary, between 30% and 40% continue for further education, which also implies a high percentage of wastage.

Parallel to secondary schools are technical schools which take a portion of primary school leavers who are taught various crafts and skills for a duration of three years. There are 24 grant aided technical schools with a rather limited total enrolment of 3,255. Post "O" level and Post-technical school vocational courses are offered at 28 grant aided technical institutes with a total enrolment of 3,686 students for the two years for all courses. There is growing number of privately-run technical and commercial institutions with varying course durations.

Opportunities in vocational education are currently limited especially because of lack of the high cost of establishing such institutions and providing the basic facilities such as tools and workshops for the courses.

2.4 Teacher Training Colleges

There are 67 such colleges for producing primary school teachers. Most of these were developed from primary schools and therefore require improved quality both in physical facilities and re-alignment of programmes. Consolidation of existing colleges rather than spreading out the availability of new colleges is the guiding principle.

2.5 Post-Primary Institutions

This level includes Primary Teacher Training Colleges, the Uganda Polytechnic, Technical Institutes, National Teachers' Colleges, the National College of Business Studies, Uganda Colleges of Commerce, the Institute of Teacher Education and Universities. All these are controlled by government except one University where government is in partnership with an International organization.

There are three Universities, one degree-awarding Institute of Teacher Education, 10 National Teachers' Colleges, one Polytechnic and one National College of Business Studies, 5 Colleges of Commerce and 4 Technical Colleges.

All these institutions require a heavy input of equipment, books and other scholastic materials. The structure and historical profile of these institutions are shown in annex (i) and (ii).

3.0 IMPROVING QUALITY OF EDUCATION

The National Resistance Movement in Uganda believes that in order for Education to be meaningful, it has to be relevant, practical and functional. Education and other training policies must therefore reflect the needs and aspirations of the people, in being useful, and problem solving. The policy in Education has and will therefore be geared to training and preparing human resources at all levels for the national economic development. The national strategy is to peg educational endeavours onto the needs of the nation, community and individual. In particular, improved education should therefore promote understanding and appreciation of the value of national unity, patriotism and cultural heritage, within, of course, the context of international relations and interdependence. It should inculcate moral, ethical and spiritual values in the individual and develop self discipline, integrity, tolerance and human fellowship; inculcate a sense of service, duty and leadership for participation in civil, social and national affairs through group activities in the school community, promote scientific, technical and cultural knowledge, skills and attitude needed to promote development, eradicate illiteracy and backwardness and equip the individual with basic skills and knowledge to exploit the environment, harness and tame nature for self development, better health, nutrition and capacity for life long education, contribute towards building an independent, integrated and self propelled (sustained) economy. Good quality education is also to focus on providing meaningful education in the context of new developments taking place in Science and Technology elsewhere in the world. Further, since it is the information age, Uganda endeavours to offer opportunities in the use of information for decision making, data processing and quick access to information. In addition, as there is growing concern for protection of environment, endeavours to inculcate, among learners, an awareness and concern on environment. Equally important is the development of democratic values among learners. The implementation of the policy being carefully phased.

3.1 Improvements in education have therefore considered major adjustments, including revitalisation in the areas of developing curriculum, devising support for teachers including their pre and in service training, the production and supply of books and other learning materials, as well as improving management and supervision in schools, through training of education Managers at all levels. Some of these efforts have been highlighted below:-

3.1.1 Curriculum Review in Formal Education

Pre and post independence primary school curriculum in Uganda has been criticised for having been irrelevant to the needs of pupils and the Ugandan Community. There has since 1962, been a conscious effort towards curriculum renewal, aimed at improving and sustaining a predominately Agricultural Society.

3.1.2 BEIRD and BEND

In 1967 an innovative approach, Basic Education Intergrated into Rural Development (BEIRD), also known as Namutamba Project, was introduced and in 1976, officially launched. The broad objectives of BEIRD would improve the quality of education resulting in a better quality of life in rural areas through increased employment opportunities and change in quality of production. BEIRD was very successful as a project, but as a programme, it lost momentum after UNESCO pulled out, and due to the turmoil in the country then (late 1970s). A lot of useful lessons have however been learnt from BEIRD particularly as regards problems of sustainability. While BEIRD programme is ongoing, a more refined project, Basic Education for National Development (BEND) which has more specific developmental objectives, has been launched. The development objective of BEND project is to transform education at all levels in Uganda so that it is more attuned to the socio-

economic needs of the country in order to have the education system contribute more effectively to national development goals. This objective is compatible with those set forth in the country programme.; It has well conceived educational package for urban and semi urban population as well. BEND is a pilot project which is to benefit from some UNDP assistance, however, a strong additional financial input is required to extend it from pilot to nationwide status.

3.1.3 School Health Education Project (SHEP)

This presents an innovative development initiative in line with making the formal educational processes more relevant and responsive to national development goals and community welfare. The project mobilises the creativity of the country's educationists and the potential of the educational infrastructure in developing a sustainable and cost effective educational experience designed to improve the health consciousness of the local communities while preparing the primary school child to grow into responsible adulthood by acquiring knowledge, skills, attitudes and behaviours conducive to healthy living. In this regard SHEP is viewed as a compliment of BEND which is to ensure that all subjects in the Basic Education Curriculum are to be adopted to the needs of the local communities. This experience is a clear attempt to improve the social impact of investments already made in primary education by manipulating available resources in a more rational, creative and socially relevant manner. The objectives of SHEP are:

- to institutionalize health education in the primary and secondary schools.

- To develop the capacity of children to relate basic science and health concepts to their everyday life experiences so as to enable them to develop attitude and behavioural patterns conducive to improving the quality of their lives as well as that of their families.
- To involve teachers responsible for science and health education in the schools as agents of change in the promotion of preventive health knowledge in the community.
- To organize national emergency AIDS awareness programme for upper primary and secondary school students. SHEP has been launched as a new syllabus which is examinable.

The programme has been developed and supervised by an Inter-Ministerial Advisory Panel involving Ministries of Health, Education, Planning and Economic Development, Local Government, Agriculture, as well as the National Curriculum Development Centre, Aids Control Programme, Uganda National Examinations Board, Makerere university, UNICEF, WHO, Uganda Red Cross, AMREF, and Child to Child Programme. The Inter-Ministerial Advisory Panel has

three sub-committees: Planning, Monitoring/Evaluation and Publicity.

SHEP can be proud of its accomplishments, particularly with regard to the introduction of health education into primary schools, the production of the Basic Primary Science and Health Teachers' Guide, Volume 2 for Primary 5, 6, and 7 and the accompanying Pupils' books as regards the design and production of 30,000 copies of the Basic Science and Health Education Syllabus for Primary Schools, the design and production of 30,000 copies each of four different Health Education kits (immunisation, water and sanitation, control of diarrhoeal diseases, and AIDS control)

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the training of 6,000 primary school science teachers in 2,000 of the 8,023 government schools and the training of 1,000 secondary teachers in AIDS awareness.

The implementation of the School Health Education Project on a national scale using existing infrastructure to make education more relevant and cost effective, has reached and benefitted the following target groups, 2.6 million primary school pupils and 800,000 secondary school students and their families. Health Education messages have been transmitted to the pupils and from the pupils to the community.

3.1.4 Minds Across

This is a unique "School-community intergrated system for living Literacy" project. It is a research Development Project supported by the International Development Research Centre (IDRC), and sponsored by the Institute of Teacher Education, Uganda. MINDS ACROSS was launched in September 1988, and is based on four primary schools. The project has the main objectives namely:

- (i) To encourage the total school consisting of Management, teachers and pupils developing skills in reading, drawing and writing and
- (ii) To build confidence among school pupils as innovators of new ideas and as capable and permanent communicators with themselves, their peers and other audiences.

The quality oriented objectives, practices and intentions to improving Basic Education in Uganda are:

- a) To provide sufficient opportunity for individual children to practice being confident communicators. While it is possible to effectively teach the basic skills of reading and writing in the conventional Uganda classroom situation, it is very difficult for 2 or 3 classroom teachers working with 100 - 150 children to provide adequate time.
- b) To provide ample opportunity and time to undertake literacy tasks, which are not tied to conventional classroom and examination practices. This improves, consolidates and sharpens their literacy skills.
- c) To provide the needed 'space' in order for children to be their own drivers in conceiving ideas and themes suitable for creative writing as well as in composing texts, using language and genres which interest them at various stages of development.
- d) to provide a wider audience of readers which pupils need for their written products other than the usual one or two classroom teachers.

This audience assists to develop and strengthen confidence of the children as contributors to the community stock of useful knowledge.

- e) To satisfy the notion that attainment of full functional and conceptual literacy, as evidenced by reading, writing, communication; evaluation and problem solving is the key to quality education.

- f) To provide opportunity for children to internalise learnt concepts by encouraging pupils to interpret classroom concepts in their own words.
- g) To make children more adept of linking school work to everyday life and community practices.
- h) To provide adequate teaching and learning resources which is perhaps one of the most important factors in achieving quality education. The conception of what are essential teaching-learning resources must extend well beyond our usual parameters of simply providing textbooks.

Essential teaching-learning resources is conceived as including teacher supplements, pupils readers and all those materials, activities and strategies through whose use and engagement in, the development, practice and consolidation of literacy is achieved.

Some Outcome

MINDS ACROSS children have participated actively in drawing, writing, discussing and exchanging texts. They have displayed their work and compiled scrap books. Several titles (on a wide range of subjects) of this work have been printed and published. Several manuscripts written by children also remain unpublished. Funds are being solicited to print and publish the numerous manuscripts written by children. Indeed more substantial funds will be required to expand MINDS ACROSS to nationwide status.

3.1.5 Child to Child

The Child to Child approach was introduced in Uganda in 1983. This approach is a teaching methodology that is now being introduced in Uganda Teachers' Colleges and the National Curriculum Development Centre. It is a strategy whereby new ideas and experiences, skills and attitudes experienced by children at school are transmitted to children and parents who are not at school, through pupils.

Child to Child approach is being used in the teaching of Primary Health Care Programme, for example, immunisation and nutrition. However, the method has the potential for use to teach other subjects too.

3.1.6 Catch Up Programme

The Catch Up Programme is yet another innovation which opened in Uganda in 1988 under the auspices of a Voluntary Organisation, the Ambassadors of Hope, then known as Ambassadors of Aid. It started within the Institute of Teacher Education premises in Kampala, Uganda.

The aims of the programme is to provide educational opportunities to the poor or disadvantaged children who could be over age, or too poor to continue with protracted formal education. It also aims at assisting school dropouts or push puts, and those whose education was interrupted by war, etc to come back into the formal education system. (Ref. efficiency rate annex (iii)).

These children are provided with skills in writing, reading, numeracy, local craft and health education for a period of two years. For the majority of these children expected to leave this programme,

their experience in this programme is terminal and finds them sufficiently vested with the necessary basic skills to build on for life. The programme uses well designed individualised programme learning materials which permit learners to proceed at their own pace.

Some of the first graduates of the programme, in 1989 were admitted to neighbouring primary schools, after passing selection tests and interviews there. It was observed that they performed very well at these tests and were accordingly admitted to Primary (standard) 3, 4 and even 5.

The programme is performing commendably and has a potential for wide application including in parts of the country where civil strife had interrupted education and other social services. In future, this approach could be a strong complimentary strategy to achieving universal Primary Education.

4. TEACHER EDUCATION

While we realise that teachers are the primary source of instruction in all societies and have the most direct impact on quality, it is estimated that untrained teachers constitute 65% of the total teaching force in primary schools in Uganda. This situation militates against quality education. Government is therefore making deliberate efforts to improve the quality of teacher education as a basic for improving primary education. Teacher education programmes to raise the general level of primary teachers have been designed.

- 4.1 The training of Grade II Primary School Teachers who have hitherto entered training after 7 years of schooling has been phased out.

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Meanwhile, upgrading courses for the already qualified grade II teachers have been mounted in grade III teachers' colleges. This has been a great success and there are now very few Grade II teachers left to be trained.

- 4.2 On-the-job teacher education for untrained teachers has to be embarked on through distance learning and holiday residential courses. Those who will successfully complete the course will qualify as Grade II teachers in primary schools. The project is being designed by Action Aid Mityana, and Buwekula Project, a local agency. The component will be radio receivers, for which Uganda seeks assistance.
- 4.3 The Institute of Teacher Education, Kyambogo (ITEK) is offering Diploma and Bachelor of Education Degree courses specifically for teacher training tutors and lecturers. It is hoped that good teacher education received by tutors and lecturers will have spiral effect to contribute to quality education in Primary Schools.

5.0 EDUCATIONAL MATERIALS

Government realises the fact that quality of educational materials strongly influences and determines the quality of education.

Through the 3rd and 4th IDA Education Projects, Primary schools and teacher training colleges received textbooks, equipment and materials. This has improved the quality of teaching and learning. In addition, a pilot Book Project is being carried out in 5 districts, involving over 800,000 pupils. In this project, every pupil is to pay 50% of the cost of textbooks. Government pays the remaining 50% of the cost of textbooks.

5.1 Equipment Production

In 1978, Science and Technology Equipment Production Unit (STEPU) was established at the National Curriculum Development Centre to produce relevant low-cost Science and Technology equipment and apparatus using locally available materials for use in Ugandan Educational institutions.

The first phase of activities of the unit, which has been supported by UNICEF, was to repair existing equipment. This phase being basically concluded, has now led onto the production phase. The achievement has been modest (Annex vi shows items produced so far.) but the unit is now receiving technical assistance to improve its capacity. Besides making Science and Technology equipment readily and easily available to educational institutions, STEPUP will provide in-service training for teachers of Science and Technology. Proper use of these educational materials and equipment will enhance quality of teaching and learning. Needless to say, the Unit faces a daunting task requiring substantial technical and financial backing.

- 5.2 In another development, the Ministry of Education plans to establish a Textbook Printing and Publishing Unit which will probably work collaboratively with the Uganda Literature Bureau. The unit will as a priority, print core subject textbooks and supplementary reading material for language.

The National Curriculum Development Centre has subject panels which design curricular and write textbooks which have hitherto been published by foreign firms.

6.0 SUPERVISION

The Ministry of Education has fully fledged schools inspectorate whose main function is to ensure maintenance of academic and professional standards in primary, secondary, technical and tertiary institutions in the country.

- 6.1 A consultant under the auspices of the International Development Agency (IDA) is now working with the Inspectorate to improve on the quality of schools inspection. A number of workshops for inspectors of schools have been organised and run. Meanwhile other aspects of on-going programme to improve supervision includes arrangements to provide vehicles and finance.
- 6.2 A training programme has been organised for District Education Officers, Inspectors of Schools, Head-teachers and Principals to improve on their supervisory skills in educational institutions.
- 6.3 The National Institute of Teacher Education has since 1987 commenced to offer supervision as a major course for a Bachelor of Education Degree in its teacher education programme. This is designed for teachers intending to become lecturers and tutors in teachers' Colleges and inspectors of schools.
- 6.4 Also to offset shortage of personnel, a large scale recruitment is taking place. This is envisaged to make up to the Inspector to Primary school ratio of 1 to 40.

- 6.5 Finally, a vigorous training of trainers for education Managers programme supported by UNESCO and other donors, has produced a core of 50 trainers. These will now train others in Scientific Management practices.

Objectives

The objectives of the Management training programmes include:-

- i) To offer an opportunity for Educational Managers to acquire knowledge, skills, and practice of Educational Management.
- ii) To equip Managers with appropriate skills of Educational leadership.
- iii) To enhance knowledge of interpreting the Educational policy, laws and regulations.
- iv) To enable Education Managers carry out effective research studies on operational problems in Management Curriculum Design, etc., and provide this information for better management of the education service.
- v) To enable Education Managers of all levels exchange ideas and experience in their related duties and functions.
- vi) To facilitate the establishment of a centre for resource materials in the field of Educational Management.

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Target Group

The immediate target groups for training are:-

- i) Principals, Directors and Deputies of National Teachers Colleges, Uganda Colleges of Commerce, Uganda Technical College.
- ii) Headmasters and Deputies of Primary and Secondary Schools.
- iii) Principals and Deputies of Primary School Teachers Colleges.
- iv) Heads of Departments in Tertiary Institutions.
- v) Regional, District Education Officers and Inspectors of Schools.
- vi) Support staff in the Regional and District Education Offices.

6.6 Other Areas

Other ongoing steps to improving quality education in general has been ongoing review of educational policies and legislature, aimed at putting in place a more responsive, up-to-date and more realistic guiding policies. In addition, under various rehabilitation and development programmes, more suitable school buildings are being put up.

7.0 NON-FORMAL EDUCATION

In the field of Adult Education and Literacy, steps taken include ongoing activities in:-

- 7.1 Conducting needs assessment surveys to establish the needs, realistic sizes and distribution of the target group: adults, out-of-school youths, etc.
- 7.2 Sensitizing people including the target groups, including administrators, etc., and enhancing national commitment to eradicating illiteracy through the R.C system, seminars radio and the mass media.
- 7.3 Training the required instructors, including the re-training of formal school teachers short courses in the skills of imparting literacy and other aspects of non-formal education.
- 7.4 Developing relevant literacy curricula and producing literacy materials to ensure that the programmes serve the target groups.
- 7.5 Evolving a clear and coherent policy for non-formal education and literacy embracing a language policy.
- 7.6 Carrying out follow-ups of post-literacy programmes to ensure that new literates do not lapse into illiteracy.

All the above stages are notably incomplete and require strong financial and technical inputs which are both out of reach of Uganda alone today.

It is to be noted that a great deal remains to be done given the positions reflected in annexes (iv) and (v).

CONCLUSION

Effort to improve quality in education in Uganda has been made against the challenging background of her recent history of political instability, characterised by numerous changes in Government and successive wars. In addition, the international

economic order has imposed on the country adverse conditions which have inevitably added to the social and economic strains brought about by internal turmoil. It is only recently when the NRM Government assumed power, that a greater sense of purpose and hope has been established and national reconstruction and development has a bright future.

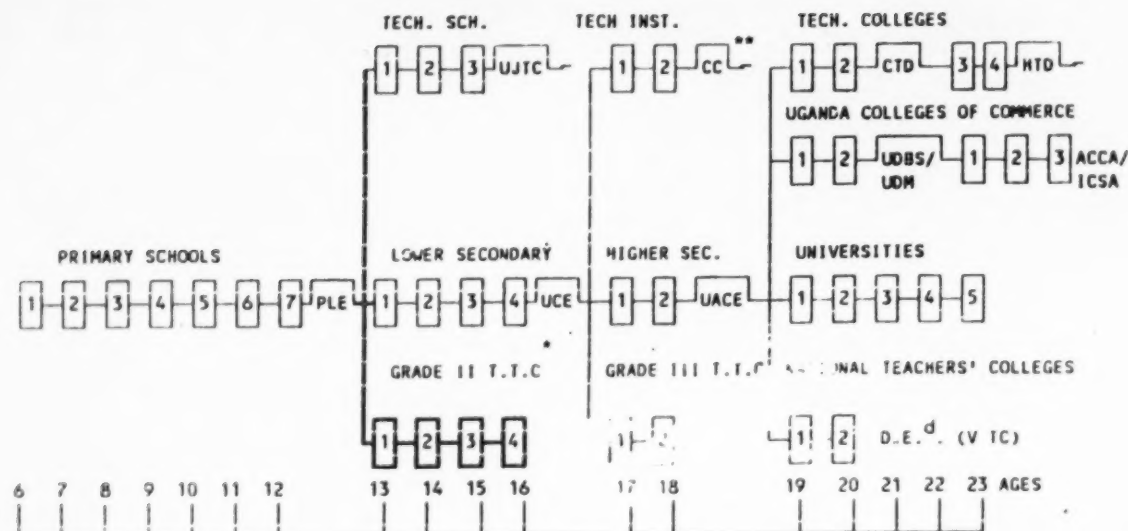
8.1 Thus, the following situations are directly important:

- a) Shortage of finance, especially foreign exchange, to acquire inputs, invest in projects such as building and equipping schools, remains the most serious constraints.
- b) Low motivation of teachers and education personnel - the country's internal capacity to raise even local currency is still low inspite of efforts in diversifying the economic base.
- c) Shortage of skilled manpower in priority areas such as planning, and management of education, research and teaching remains a major constraint, because human resources are critical factors in the success of development programmes.
- d) High rate of population growth, which overloads the existing facilities that cannot expand at the same rate. Approaches which promote quality education become difficult to apply.

8.2 The ongoing programmes and effort to improve quality education have a great hope and future not only in Uganda but for other countries. It is therefore in this spirit that we invite all possible technical and financial assistance to realise the practices and output that are in line with national priorities and commitment.

UGANDA - STRUCTURE OF FORMAL EDUCATION

Annex (i)



KEY:

- | | | |
|--|---|--|
| <p> [] = Final Examinations
 PLE = Primary Leaving Exams
 UJTC = Junior Junior Tech. Cert.
 UCE = Uganda Certificate of Edu.
 UACE = Uganda Advance Cert. of Ed.
 OTD = Ordinary Tech. Diploma
 HTD = Higher " " </p> | <p> III.TC = Grade III Teaching Cert.
 UDBS = Uganda Dip in Business Studies
 UDM = " " " Marketing
 ACCA = Assoc. of Certified Chartered Accountants
 ICOSA = Institute of Certified Secretaries & Administrators </p> | <p> V.TC = Grade V Teaching Cert.
 CC = Craft Certificate
 * = Last Phased out 1986
 ** Successful students go for 1 yr industrial experience and back for 1 yr for Advanced Craft Cert. followed by another 1 yr industrial experience and another 1 yr for Full Technological Cert. </p> |
|--|---|--|

SUMMARY: EDUCATION STATISTICS 1980 - 1988

	1980	1981	1982	1983	1984	1985	1986	1987	1988 Estimate
NUMBER OF INSTITUTIONS									
Primary Schools	4,276	4,585	4,945	5,695	6,425	7,025	7,350	7,955	7,905
Secondary Schools	120	179	270	287	430	505	508	515	774
Teacher Training Colleges	31	32	50	55	68	73	92	92	94
Technical Schools and Institutes	15	15	15	36	47	52	56	55	52
Teacher Colleges	1	1	1	4	4	10	10	10	10
Uganda Technical Colleges	1	1	1	1	9	9	9	5	5
Uganda Commercial Colleges	1	1	1	1	6	6	6	6	5
Other Higher Institutions 1/	-	-	-	-	-	-	-	3	3
Makerere University	1	1	1	1	1	1	1	1	1
NUMBER OF TEACHERS, TUTORS, LECTURERS									
Primary Schools	38,425	40,489	43,967	49,206	57,078	61,424	66,101	96,180	75,561
Secondary Schools	3,202	3,732	4,772	5,617	6,561	6,903	10,193	12,000	13,356
Teacher Training Colleges	388	436	558	558	743	906	1,105	1,105	1,429
Technical Schools and Institutes	234	242	407	407	436	442	448	448	627
Teacher Colleges	57	581	138	138	151	163	176	302	302
Uganda Technical Colleges	87	91	173	173	240	367	561	79	79
Uganda Commercial Colleges	-	58	107	107	124	134	145	99	99
Other Higher Institutions 1/	-	-	-	-	-	-	-	400	411
Makerere University	512	395	347	369	390	435	485	558	558
ENROLLMENT									
Primary Schools	1,292,377	1,407,158	1,582,009	1,730,299	1,930,698	2,117,000	220,384	2,505,700	2,638,100
Secondary Schools	73,092	83,000	101,752	117,087	144,527	159,702	196,010	226,875	240,834
Teacher Training Colleges 2/	10,027	10,988	9,806	11,314	11,382	18,320	12,551	13,179	13,173
Technical Schools and Institutes	3,457	3,437	4,181	4,995	6,079	7,915	9,798	10,073	6,556
Teacher Colleges	525	525	747	1,175	1,670	1,837	2,750	2,106	2,106
Uganda Technical Colleges	789	789	571	669	1,368	1,505	1,914	735	735
Uganda Commercial Colleges	624	626	653	750	991	1,090	1,297	1,009	1,009
Other Higher Institutions 1/	-	-	-	-	-	-	-	2,051	1,463
Makerere University	4,332	4,156	4,583	4,854	5,042	5,271	5,390	5,533	6,318

1. Institute of Teacher Training, Kyambogo

Uganda Polytechnic, Kyambogo

National College of Business Studies, Nakawa

2. Including service and ordinary including service and ordinary intake

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TABLE 1 ENROLLMENT IN GOVERNMENT AIDED PRIMARY SCHOOLS BY STANDARD: 1980-1988

(thousands)									
STANDARD	1980	1981	1982	1983	1984	1985	1986	1987	1988
Primary 1	286.5	325.3	375.2	413.1	450.1	495.0	523.5	575.3	688.2
Primary 2	220.1	248.4	287.1	320.7	355.7	395.0	407.1	454.0	487.1
Primary 3	199.6	212.3	244.1	285.1	320.0	344.0	367.8	413.1	438.9
Primary 4	170.5	181.4	198.7	220.5	255.8	280.0	300.0	342.5	351.3
Primary 5	146.1	155.7	168.7	181.2	206.0	227.0	245.0	285.2	282.1
Primary 6	138.0	145.0	156.4	164.4	180.7	199.0	198.5	236.8	219.2
Primary 7	131.6	138.0	151.8	145.4	162.4	177.0	161.9	198.6	171.3
TOTAL	1,292.4	1,407.5	1,582.0	1,730.4	1,930.7	2,117.0	2,203.8	2,505.5	2,638.1
% Female	40.9	42.6	42.6	43.5	43.5	44.0	45.0	45.0	44.0
Pupil/Teacher Ratio	34.0	35.0	36.0	35.0	34.0	35.0	33.0	34.0	34.0

SOURCE: Planning Unit, Ministry of Education

TABLE 2 ENROLLMENT IN GOVERNMENT AIDED SECONDARY SCHOOLS BY STANDARD: 1980-1988

(thousands)									
STANDARD	1980	1981	1982	1983	1984	1985	1986	1987	1988
Senior 1	17.9	23.2	33.1	36.5	46.5	47.8	56.3	59.2	
Senior 2	17.6	19.4	24.9	30.6	36.2	41.2	52.0	54.7	
Senior 3	15.9	17.4	17.9	23.2	29.0	30.2	40.5	42.6	
Senior 4	14.8	15.5	16.1	16.6	21.7	28.3	31.0	32.7	
Senior 5	3.6	4.1	5.1	5.1	5.9	6.5	8.5	9.0	
Senior 6	3.3	3.3	4.5	5.1	5.4	5.7	7.7	8.1	
TOTAL	73.1	82.9	101.6	117.1	144.7	159.7	206.0	206.3	240.8
% Female	29	30	31	33	33	33	35	33	
Pupil/Teacher Ratio	23	22	21	21	22	23	19	17	

SOURCE:- Planning Unit, Ministry of Education

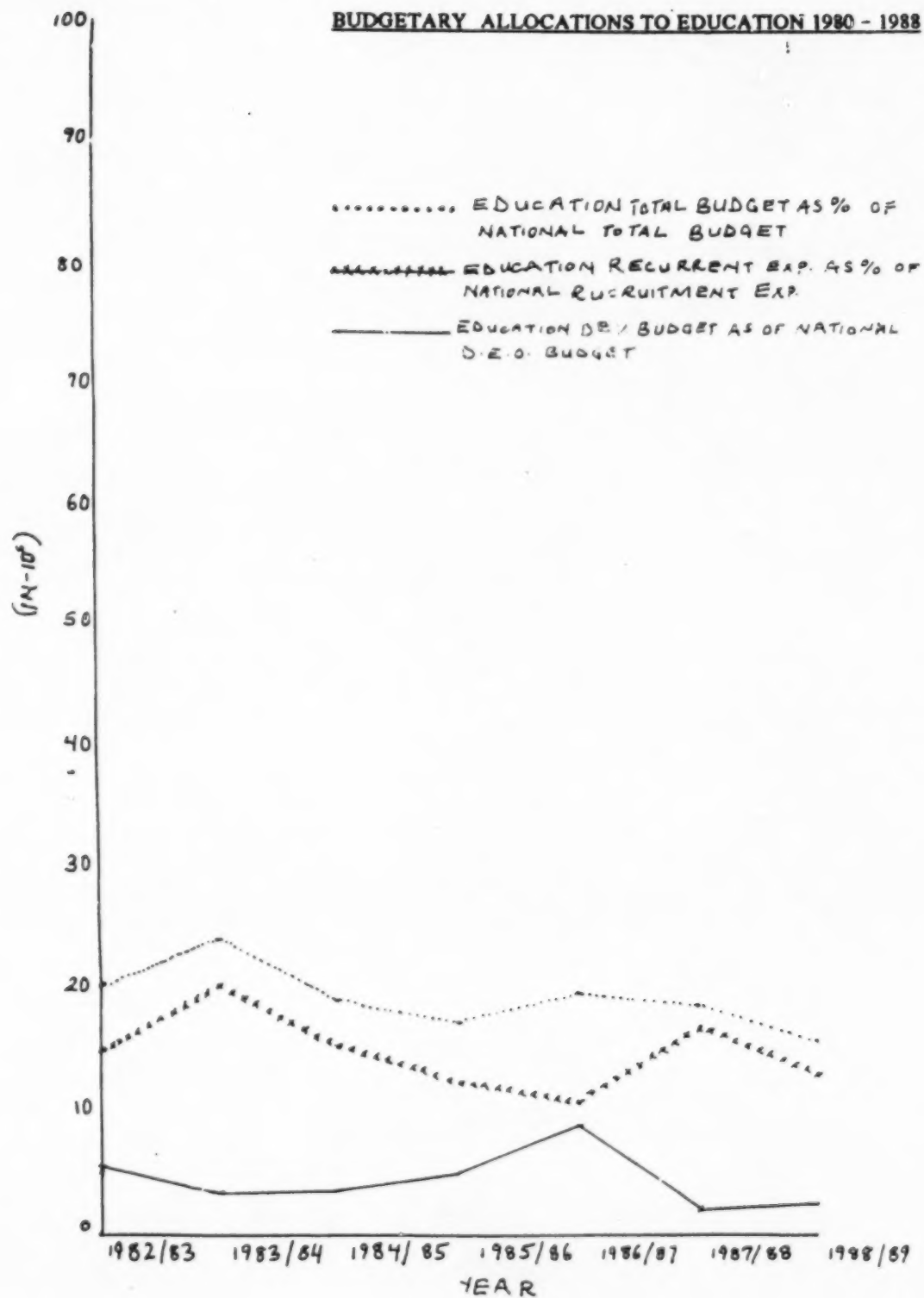
TABLE 3 PERFORMANCE IN PRIMARY AND SECONDARY SCHOOLS: 1981-1988

(thousands)									
YEAR	PRIMARY EDUCATION		ORDINARY LEVEL OF EDUCATION		ADVANCED LEVEL OF EDUCATION		PASSES (%)		
	P.L.E	P.L.E	U.C.E	U.C.E	U.A.C.E	U.A.C.E	P.L.E	U.C.E	U.A.C.E
	Registered Candidates	Passes	Registered Candidates	Passes	Registered Candidates	Passes			
1981	129,457	102,643	19,733	16,018	4,322	4,067	79.3	81.2	94.1
1982	138,851	113,069	21,315	16,686	5,011	4,801	81.6	78.3	95.8
1983	146,204	113,138	23,161	19,050	5,976	5,738	77.4	82.3	96.0
1984	153,740	119,441	28,169	21,680	7,096	6,746	77.7	77.0	95.1
1985	142,476	105,515	32,053	25,254	7,696	5,158	74.0	78.8	67.0
1986	141,642	99,570	32,316	26,720	9,141	5,888	70.3	82.7	64.4
1987	135,715	96,511	35,229	28,232	10,232	6,796	71.1	80.1	66.4
1988	146,649	92,358	39,293	32,487					

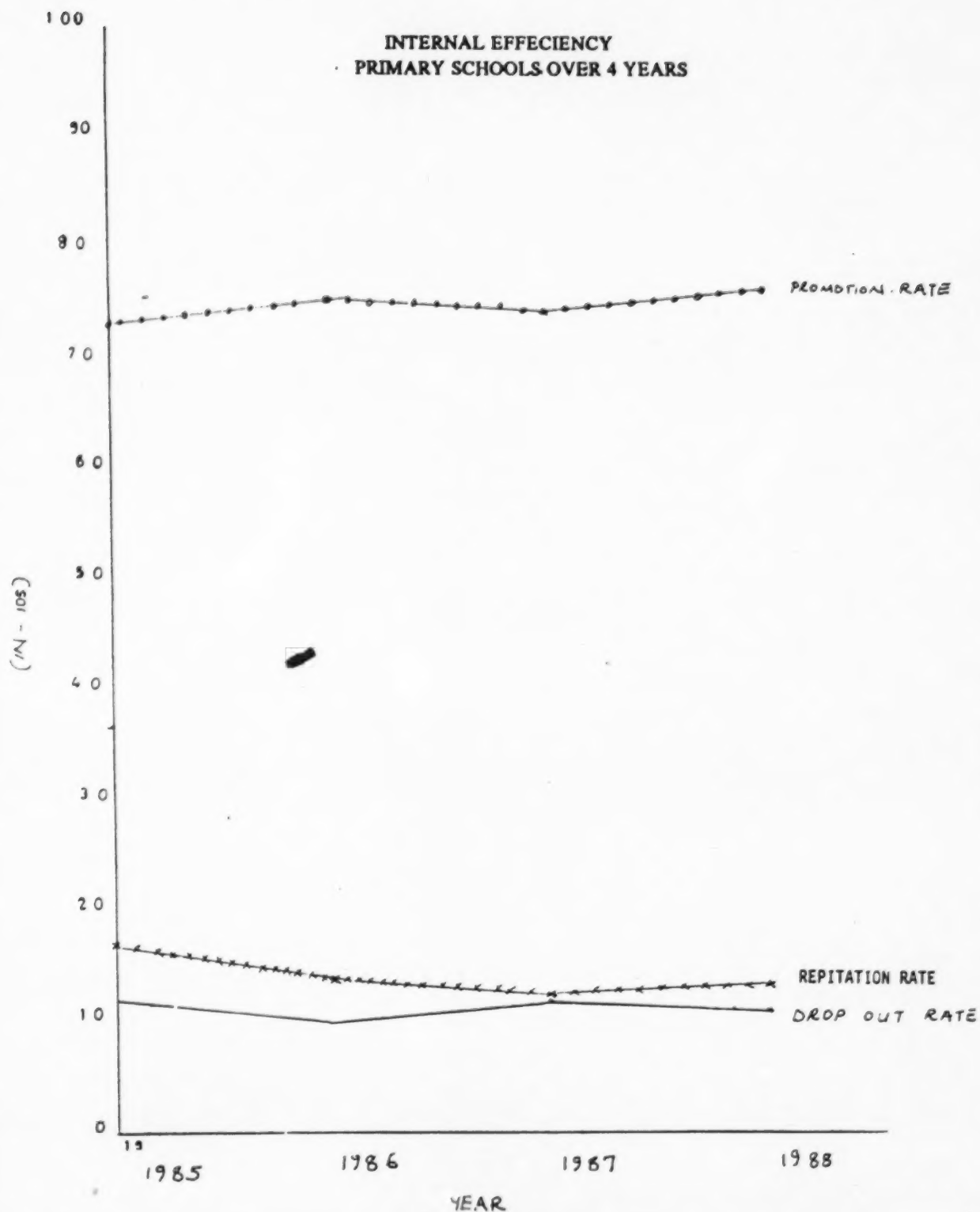
NOTE 1. 1986 UACE Examinations are those done in April/May, 1986

2. 1986 UCE Examinations were done in November/December 1986, the results are tentative 1986, the results given are tentative.

SOURCE: Uganda National Examinations Board.



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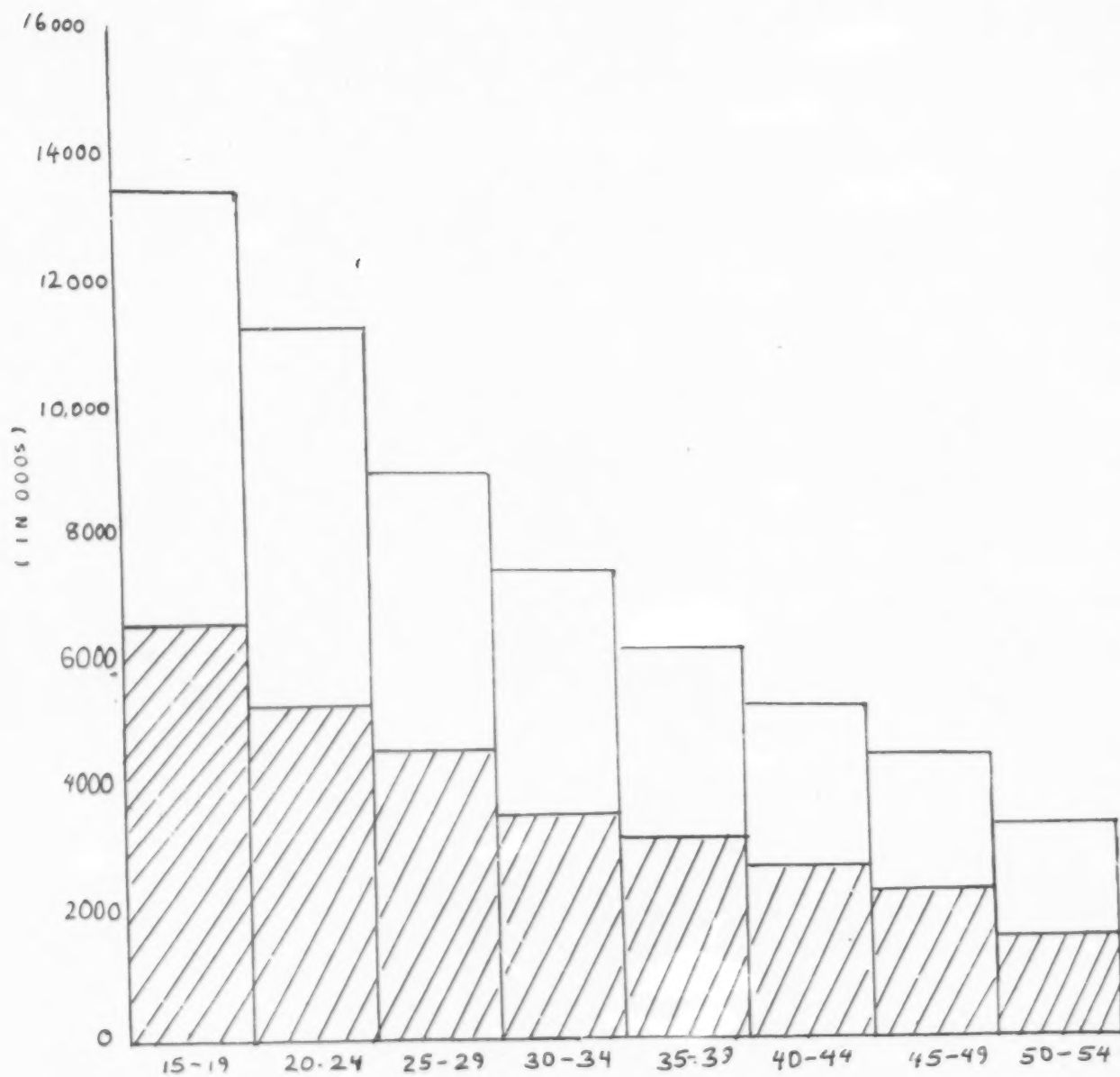


SOURCE: MINISTRY OF LOCAL GOVERNMENT

ANNEX (iv)

ILLITERATE POPULATION IN 15 - 54 AGE GROUP

BASE YEAR: 1980



AGE GROUP

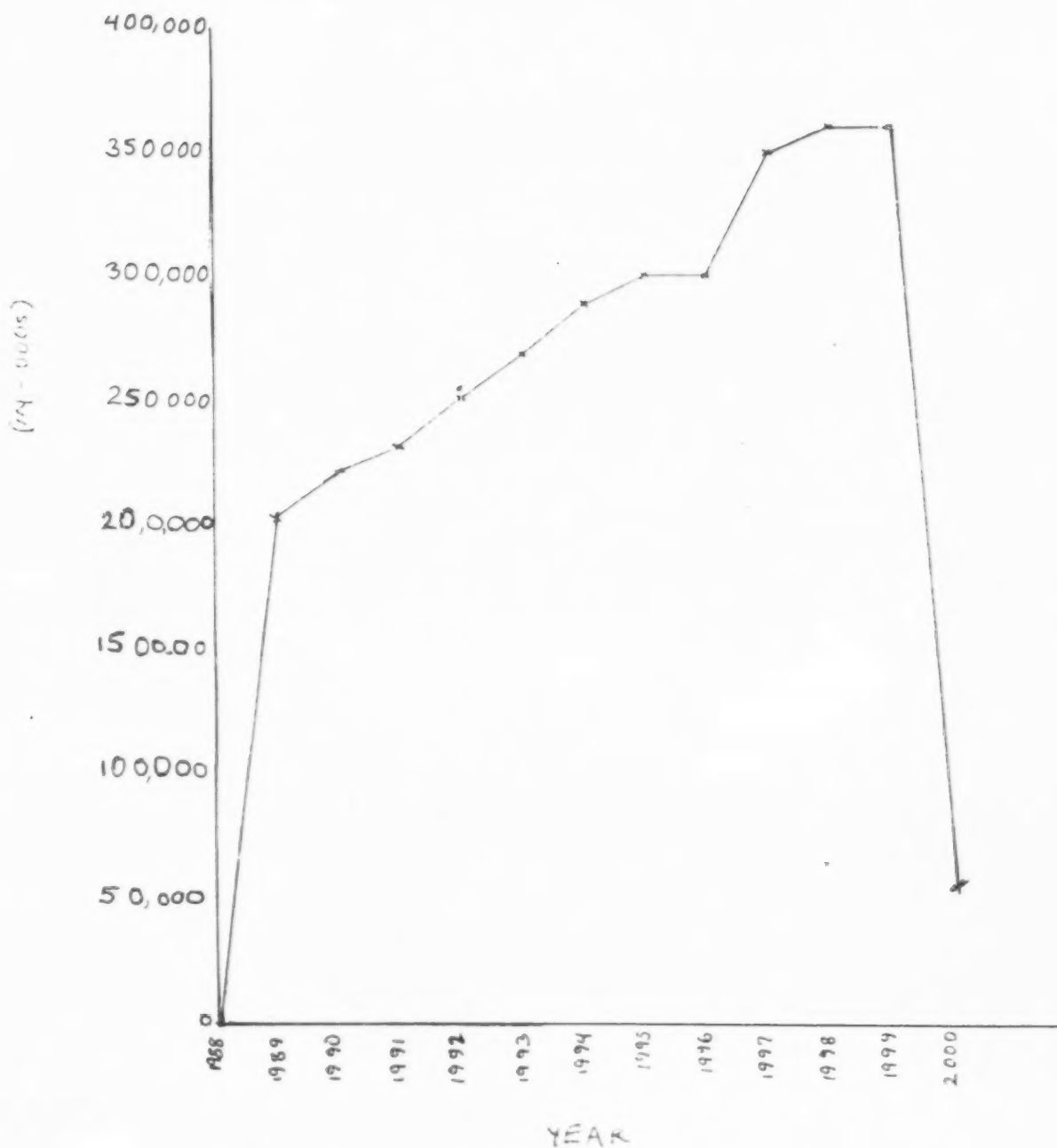
MALE

FEMALE

SOURCE: UNESCO

ANNEX (v)

ILLITERATE POPULATION
PER YEAR



SOURCE: MINISTRY OF LOCAL GOVERNMENT

(ANNEX VI):

A. LABORATORY EQUIPMENT AND OTHERS REPAIRED FROM FEBRUARY TO DECEMBER, 1989 BY STEPUP MOBILE UNIT

Equipment	Quantity	Equipment	Quantity
Milliammeter	4	Radiator	3
Voltmeter	40	Incubator	2
Ammeter	28	Centrifuge	1
Calvanometer	19	Micrometer Screw gauge	9
Stopclock	53	Clinostat	1
Bunsen burner	10	Vacuum Pump	3
Loud Speaker	2	Pressure stove	5
Water bath	2	Mincer	3
Power Supply	26	Electric Iron	1
Battery Charger	1	Chemograph	1
Spring balance	1	Mounte magnifying lens	2
Vernier Calipers	3	Metter Balance	1
Microtome	1	Level balance	1
Curtail rail	3		
Oven	3		
Deep fat frier	1		
Cooker	3		
Electricity Supply rectifi- cation.	2 buildings		
Ratemeter	1		
Microscope	59		
Balance	3		
Optifal bench	1		
Aquarium	3		

B. SOME OF THE EQUIPMENT

PRODUCED BY STEPUP:

Blackboard rulers.
Protractors.
B/B Set Square 60°/30°.
B/B Set Square 45°.
Test tube racks.
Tee Square.
Meter rulers.
30 cm. rulers.
Black board compasses.
Clock faces.
Laboratory Stools.
Classroom Chairs.
Test-tube holders.

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